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PRODUCTION OF COTTON IN LATIN AMERICA

By Charles H. Barber*

The existence of large surpluses of cotton in world markets each year since the early 1930's has increased American interest in present production and potential expansion in foreign countries, including the Latin-American group. Cotton production in these countries was of minor importance until about the time cotton surpluses began to accumulate in the United States. Although combined production in all Latin-American countries has tripled since 1920 (from 1 million to nearly 3 million bales annually) it still represents less than 25 percent of the average yearly production of the United States.

HISTORY AND PRESENT POSITION

The importance of Latin-American production of cotton to American producers lies chiefly in two factors: (1) most Latin-American cotton is of varieties and staple lengths similar to those of American cotton, and competes effectively with American cotton in world markets; (2) rapid expansion of domestic cotton-textile industries under high tariff protection in the chief producing countries has tended to reduce the market for imported cotton textiles. The latter not only affects the exports of textiles made in the United States but also those of foreign countries using American raw cotton.

HISTORICAL BACKGROUND

Discovery of cotton fabrics in the ancient tombs and temples in Mexico indicates that cotton is indigeneous to that country. Likewise, the textiles found in Inca tombs show that cotton was grown and used by the Indians of Peru for centuries prior to the Spanish invasion. Cotton was presumably introduced from Peru or Bolivia into Argentina and Brazil before the Spanish conquest, where early explorers found it growing along the coast.

Small export shipments of cotton were made by Portuguese settlers from northeastern Brazil as early as 1700. Spinning and weaving mills were set up in Minas Geraes about 1775. Development in Peru was slow in the colonial era, mainly because the cotton gin did not reach that country until long after its invention in the United States and Peruvian cotton shipments to European markets via Cape Horn could not pay the high transportation costs and compete with cotton from the American South. For the same reason, it was costly to import food products, and most of the arable land was devoted to food crops. In Mexico the first stimulus was given to commercial cotton cultivation with the establishment of a textile industry following the attainment of independence in 1821.

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It was not until the outbreak of the American Civil War, when European spinners were unable to obtain American cotton, that cotton growing became of major importance in Latin-American countries. It was mainly British spinners who supplied the seed, machinery, and capital necessary to develop an alternative source of supply of cotton. During the war period, annual shipments of Brazilian cotton alone reached as high as 368,000 bales (of 478 pounds net).

With the resumption of shipments from the United States, however, production in Latin-American countries declined. A large proportion of the cotton planters in Brazil returned to the cultivation of coffee, sugar, and rubber. Cotton production suffered a further curtailment in this country as a result of the abolition of slavery in 1888. With the decline of the rubber industry in the early part of the present century, capital and labor again began to turn to cotton. The World War provided a further stimulus to the Brazilian industry, and with minor fluctuations, expansion has continued to the present time.

While the cotton industry in Peru remained on an export basis after the Civil War, the trade was of minor importance until the opening of the Panama Canal in 1914 brought a reduction in shipping costs to European markets. Production in Argentina almost ceased after the reentrance of American cotton into world trade in 1865. In subsequent years, sporadic attempts were made under both Government and private auspices to develop the cotton-growing industry. It was not until 1924, however, that the industry became of economic importance.

CURRENT SITUATION

The important question of potential and probable expansion of cotton production in Latin American can best be explored by separate study of each cotton-producing country. A brief summary of the situation as a whole, however, may be of interest at this point.

The producing regions of present significance are in Brazil, Peru, Argentina, and Mexico. Minor producing countries in the order of their importance include Paraguay, Haiti, Colombia, Venezuela, Ecuador, Puerto Rico, and several of the Central American Republics. In Paraguay, production has increased from about 18,000 bales in 1930-31 to nearly 58,000 bales in 1936-37. Recent data on production in these countries, however, are not available in detail. Competition from Peru and Mexico is comparatively small because further expansion is limited by the extent to which irrigation works may be expanded. Also, Peruvian cotton, being practically all long staple, is not directly competitive with American cotton; and about 75 percent of Mexico's annual production is usually consumed in Mexico.

Brazil and Argentina, especially the former, have been the scenes of the greatest expansion in recent years, and most of the cotton produced is the same as, or similar to, the types and varieties grown in the United States. Unfavorable weather conditions and insects in some years, combined with a shortage of labor, capital, and transportation facilities, have seriously handicapped efforts to expand the Argentine crops. The same factors have also affected expansion in Brazil but not to the same extent, and rapid progress has been made despite the disadvantages.

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An increasing amount of Brazilian cotton in recent years has gone to England, Japan, and Germany, formerly the three best cotton customers of the United States. Exports to these three countries from Brazil have increased steadily from 413,000 bales in 1934 to 887,000 bales in 1938. Exports from the United States to the same three countries showed a gradual decline from 3,529,000 bales during 1934 to 2,267,000 bales in 1938.

Germany was the destination of 77,000 bales, or 75 percent, of the Argentine cotton exports in 1938, compared with an average of 19,000 bales, or 16 percent of the total, during the 5-year period 1930-1934. Total Argentine exports, however, have fluctuated widely, with only a slight upward trend since 1930.

Potentialities are great for increased production in Brazil and Argentina, and to a lesser extent in Mexico, as handicaps are gradually overcome; but the rate of increase is likely to be much slower in the future as long as world cotton prices remain at relatively low levels. An appreciable increase in cotton prices, however, would undoubtedly lead to a rapid increase in production in those countries, since the Governments are promoting expansion of cotton acreage in their programs for greater diversification of agriculture.

BRAZIL

PRODUCING REGIONS

Cotton is grown in two distinct regions in Brazil, (1) the northeastern part, the traditional cotton region, which produced from 70 to 90 percent of Brazil's cotton prior to 1920, and (2) the southern States, where the greatest expansion has taken place in recent years. Since 1933, the southern region has accounted for more than 50 percent of total production.

The soil, climate, and growing conditions in the two districts are very different, as are the types and qualities of the cotton grown. Southern Brazil produces cotton of the American Upland type, whereas in the northeastern States the long-staple Brazilian tree cotton still predominates except on the coast. In the interior of the northeastern States, agricultural development has been relatively slow and cotton is still the only cash crop in many sections, while sugar cane is the leading crop in the rich coastal areas. In the southern States, rapid progress has been made in improving methods of cotton cultivation and handling. Cotton is still second in importance to coffee in this area, and there is more land devoted to food crops, fruit, and grazing than in the northeast.

Cotton acreage in the northeastern States has followed an upward trend for several decades, but not at such a rapid rate as that prevailing in the southern States since 1932. During the 5-year period ended in 1928-29, cotton acreage in the northeastern States averaged 1,071,000 acres, or 80.6 percent of the total for Brazil. The southern region accounted for only 19.4 percent during the same period. During the past 3 years, nearly two-thirds of the total Brazilian cotton crop was produced in the southern States, principally São Paulo. This State alone produces about half of the total Brazilian crop at the present time.

TYPES AND QUALITY

Brazilian cotton may be divided into two general classes according to staple length. Tree cotton, which is long staple and perennial, still predominates in the northeastern States and is grown to a limited extent in Bahia and Minas Geraes. Southern Brazilian cotton is almost exclusively of American Upland varieties. These short- and medium-staple, annual varieties are also grown in some interior districts in the northeast and in the lowlands near the coast.

Until recent years, the quality of Brazilian cotton in both major districts was considerably reduced by the mixing of varieties in the fields and gins, poor ginning equipment, exposure of the cotton to weather, and lack of efficient methods of handling in general. The mixing of different varieties and staple lengths makes it impossible for a buyer to grade cotton accurately and causes a lack of uniformity in fiber length. These defects in quality have been far more prevalent in northeastern Brazil than in the south, but have been reduced considerably in both regions by the activities and legislation of the Federal Government since 1931. The improvement of quality, together with the rapid increase in production of short- and medium-staple varieties, has made Brazilian cotton more closely competitive with United States cotton. Since 1933-34, more than half of the Brazilian crop has been composed of Upland varieties comparable with American cotton.

FACTORS AFFECTING PRODUCTION

Rainfall - In the northeastern section of Brazil, rainfall is irregular and the plateau region is subject to periodic droughts, sometimes of long duration. During the rainy season, which lasts from December to June, heavy downpours often wash away the thin topsoils, while comparatively little water soaks in. Cotton usually fares best if most of the rain comes just before the planting season, followed by light showers until the bolls are nearly matured. In most years, rainfall in this region would be sufficient if it came at the right time. Dams and reservoirs now under construction in the northeast are primarily to furnish water for inhabitants and livestock, but irrigation for about 60,000 acres is also planned. Rainfall along the coast is usually sufficient for all crops.

In the cotton-producing States of Southern Brazil, rainfall is sufficient for all agricultural purposes and generally is well distributed for growing cotton. The wet and dry seasons are not so clearly marked as in the northeastern States. Occasionally cotton crops suffer considerable damage when rains continue into the picking season.

Alternative crops The first great shift of capital and labor to cotton took place in the early 1900's when the rubber industry in Brazil collapsed. Cotton has no serious competitor as a cash crop in the plateau regions of the northeast, though cattle raising is of considerable importance in some areas. In the coastal belt where rainfall is abundant, sugar cane is a more important crop than cotton, particularly in Pernambuco, Alagoas, and Bahia. In addition, Bahia produces virtually all of the Brazilian cacao crop and accounts for about half of the annual tobacco production.

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In Southern Brazil, the economic structure has been built around coffee. Although cotton production has been greatly expanded in this region, it is still a poor second as an export commodity. Cotton prices have been low for several years; but coffee prices, because of overproduction and huge carry-overs, have been depressed to an even greater extent. The cost of production of cotton in Southern Brazil is estimated to be lower than the average cost for the United States Cotton Belt. Consequently, producers can realize relatively greater net returns at a given price per pound than can most producers in the United States.

Virgin land is plentiful, and competition between cotton and coffee is more for capital and labor than for space. Most of the new cotton land was formerly uncultivated forest or pasture, and a much smaller amount is converted coffee land. Cultivation of sugar cane and fruit orchards, especially of citrus fruit and bananas, in Southern Brazil has expanded rapidly in recent years to compete with cotton growing. Considerable acreage is also used for rice and livestock.

Three factors have apparently influenced the increased importance of cotton in relation to coffee in Southern Brazil: (1) legal restrictions on the planting of coffee trees, (2) more active effort on the part of the Government to encourage cotton as an export crop in order to lessen Brazil's economic dependence on coffee, and (3) increasing interest of foreign as well as domestic capital in the production of cotton.

Labor supply - Although approximately 40 percent of Brazil's population lives in the four southern cotton States, the agricultural labor supply is usually insufficient. This is attributed mainly to the fact that the cotton and coffee harvests occur at about the same time.

Much of the agricultural labor in this region has been furnished by immigrants in recent years. Large numbers of Italians, Spaniards, Portuguese, and Japanese have settled in the southern States and usually become employed in the type of agriculture offering the highest wages to tenants or returns to independent producers. The southern Europeans generally seem satisfied to work as laborers, whereas the Japanese prefer to buy land as soon as possible. The Japanese consul at São Paulo estimated that 42 percent of the cotton grown in that State in 1933-34 was produced by Japanese labor. A number of large cotton plantations are owned by Japanese companies.

Although the northeastern States have not received many of the European immigrants, the labor supply appears adequate to care for a considerably greater acreage than is now planted to cotton. This may be partly attributed to the fact that perennial cotton requires much less labor than do annual varieties. Also, the density of population in the coastal area of the northeast compares favorably with that in the southern cities, so that seasonal labor is available when needed. The extensive drought-relief program being carried out by the Federal Government in the plateau States of the northeast is designed primarily to prevent the emigration of farm people from this area by giving them temporary employment during periods of drought. Malaria epidemics in some localities of this region sometimes cause serious labor shortages.

In the past, Brazil has encouraged immigration almost without limitation, but in recent years the policy has changed to one of close selection. Restrictions are applied in such a way as to encourage the inflow of agricultural laborers, the particular type of immigrants most needed by Brazil.

Transportation - In the cotton districts of the south, existing transportation facilities are good, but there are large, sparsely populated areas in which lack of transportation is still a major problem. It is probable that much of the potential cotton land in these areas will remain undeveloped until highways or railways are extended into them.

Transportation facilities in the northeastern States are not so good as in the south. Highways, which are so necessary to connect agricultural regions with railway points, are not hard-surfaced in this region and are virtually impassable during the rainy season. As a result, the small farmer is still dependent in most cases on the oxcart or on mule pack trains to transport his crop to the nearest railway. The road building in the northeastern States in connection with the Government's drought-relief works program has added more than 4,000 miles of roads, but little of this mileage is hard-surfaced.

Financing and marketing - One of the principal factors limiting the expansion of cotton production in Brazil is the lack of capital available to the small farmer. Such credit as is extended is usually provided by owners of gins or by small merchants and cotton buyers in the interior towns. There is, however, a growing tendency on the part of large cotton exporters in coast towns and of the Government to rediscount the loans of the ginners and small buyers, thus expanding the ultimate volume of credit extended to present and prospective growers.

In recent years, a number of foreign cotton-trading concerns have entered the Brazilian market on a permanent basis, bringing about a further easing in the credit situation. Japanese cotton-buying corporations not only finance a large number of independent Japanese producers but own and cultivate large tracts of cotton lands under their own management.

Government aid - The protective tariff imposed on imports of raw cotton, yarns, and finished goods is practically prohibitive, leaving the Brazilian markets almost exclusively to the Brazilian cotton producers and manufacturers. In addition, high tariffs imposed by several States on cotton shipped in from other parts of Brazil encourage local production to expand in States that have a relatively large number of mills.

The Federal Government has taken active measures to improve the quality of Brazilian cotton. A Federal decree issued on March 27, 1934, requires annual registration and licensing of all cotton gins and presses. It also provides for annual inspection of all gins and allowed 18 months from the date of promulgation in which existing gin machinery was to be made to conform to prescribed standards. Evidence of the enforcement of this provision may be noted in the fact that exports of American gin machinery to Brazil increased in value from \$68,000 in 1933 to \$558,000 in

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1934 and \$847,000 in 1935. Since that year, the total value of annual exports of this type have declined somewhat (to \$555,000 in 1938).

Official classification has been required since 1931 for all cotton destined for export. A decree issued in July 1933 provides that all cotton transactions must be effected according to official classification standards.

Another important means used to improve the quality of Brazilian cotton is through Federal distribution of seed. Varieties best suited to local conditions are determined by Government experimental farms, and most of the cotton States in cooperation with agencies of the Federal Government prohibit the planting of any variety other than that recommended for the given locality. The intention is to prevent the mixing of varieties and to increase the yield by planting those most suitable.

Public interest in the cotton industry is promoted by Government-sponsored publicity through press and radio. This is part of the Federal program for greater agricultural diversification to relieve Brazil's economic dependence on coffee and to increase farm income. The Federal drought-relief program in the northeast, under which dams, irrigation works, and highways are being built, may bring about a substantial increase in the production of cotton in that region.

Further encouragement was given to cotton exporters (until November 1937) by Government manipulation and control of foreign exchange in favor of cotton exports.

Utilization of cotton - The manufacture of cotton textiles has long been important in Brazil and today ranks first among Brazil's manufacturing industries. The textile industry has expanded rapidly since 1900, but not so rapidly in recent years as has production. About 80 percent of the spindles and looms are found in the southern States of São Paulo, Minas Geraes, Rio de Janeiro, and the Federal District. Until 1933-34, the consumption of raw cotton exceeded production in these States and considerable quantities were obtained from Northern Brazil.

It is estimated that from 90 to 95 percent of Brazil's cotton-textile requirements are now manufactured within the country with imports usually consisting of fine-count yarns and specialties. During the period from 1921 to 1933, domestic consumption averaged 405,300 bales per year, or about 75 percent of total production in Brazil. In the past 2 or 3 years, production has outgrown consumption to the extent that domestic mills utilize only 25 or 30 percent of total production. Most of the increased surplus has gone into foreign markets, principally Germany and Japan, in competition with American cotton.

Further increases in raw-cotton production will most likely be reflected in the export trade because domestic demand is almost entirely supplied by Brazilian mills. Further expansion of the textile industry depends largely on demand in the domestic markets, since there is very little export trade in Brazilian cotton textiles. Lower prices of Brazilian cotton in relation to American cotton and the barter trade arrangements with Germany usually enable Brazilian exporters to dispose of all old-crop stocks before the new crop is picked.

Table 1. Cotton exports from Brazil, by leading countries of destination, averages 1921-1925 and 1926-1930, annual 1931-1938
(in bales of 478 pounds net)

YEAR	UNITED KINGDOM	GERMANY	JAPAN	FRANCE	OTHER COUNTRIES	TOTAL
	: Bales	: Bales	: Bales	: Bales	: Bales	: Bales
Average:	:	:	:	:	:	:
1921-1925	60,909	4,530	1	14,549	21,315	101,304
1926-1930	82,622	7,062	a	4,822	14,116	108,622
1931	65,609	9,200	a	8,350	12,676	95,835
1932	814	611	0	49	903	2,377
1933	43,581	1,808	375	3,361	4,803	53,928
1934	305,971	98,894	7,821	51,875	119,093	583,654
1935	119,636	379,712	11,492	49,185	79,354	639,379
1936	303,577	190,956	199,835	69,007	160,498	923,873
1937	218,292	390,860	234,841	58,616	186,689	1,089,298
1938	232,673	377,286	277,461	137,206	214,742	1,239,368
	:	:	:	:	:	:

^a If any, included in "other countries."

Compiled from *Comercio do Brasil* and reports of American consuls in Brazil.

OUTLOOK

Brazil's advantages as a producer of cotton may be summarized under four general headings:

1. *Abundance of land* - Land suited to cotton production is abundant, especially in the southern States. The four cotton-producing States in Southern Brazil have a total area approximately equal to that of the American Cotton Belt west of the Mississippi River. Although much of this area is already producing cotton, coffee, fruit, and food crops, more than half of it is still virgin land. Less than 35 percent is actually under cultivation, a large part of the remainder being in pasturage suitable for cultivation.

Even with only 5 percent of the area of the six southern States considered suitable for cotton production, the potential cotton area in this region is more than 18 million acres, or about three times the present cotton acreage of all Brazil. This estimate is more than half the average cotton acreage in the United States since 1933.

Prospects in the northeastern States are limited by rainfall and transportation facilities. Within the present cotton-growing zone, acreage and production may be increased to some extent by the irrigation works now under construction. Extended transportation facilities could open up large new areas suitable for cotton production. Climatic factors in this tropical region, however, would tend to make such investments hazardous in view of the low world prices of cotton.

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2. *Climate* - The climate of Southern Brazil with reference to both rainfall and temperature is generally well adapted to cotton growing, though rainy weather occasionally extends into the picking season. In the plateau districts of the northeast, temperatures are favorable to cotton production, but the periodic droughts represent a serious handicap. This will be partly overcome by completion of a number of irrigation systems in this region, although progress on this work at present is slow.

3. *Domestic textile industry* - A textile industry of first importance has already been established in Brazil and is likely to sustain interest in cotton growing, even in periods of low world prices. Prices received by producers in terms of Brazil's currency are still high because of a drastic depreciation of the milreis since 1930.

4. *Government aid* - Active governmental encouragement, through both publicity and legislation, has already shown results in the improvement in quality and yield of cotton. This work will continue and probably be intensified, since the outlook for improvement in the coffee situation is still unfavorable.

The problems that handicap the Brazilian cotton industry are (1) limited labor supply in relation to undeveloped arable land areas, (2) inadequate transportation facilities and, more particularly, shortage of roads tributary to existing rail lines, (3) shortage of modern machinery, (4) lack of an organized system of credit for producers, and (5) competition with coffee. A considerable improvement in the coffee situation would probably affect the cotton industry adversely, drawing capital and labor back into coffee production. Such a change in the coffee industry, however, does not appear likely in the near future.

Weighing the advantages against the disadvantages, the trend of cotton production in Brazil seems likely to be nearly stationary in the immediate future. The effect of the United States export subsidy on world cotton prices and the increased interest in production of fruit, food crops, and livestock in the southern cotton region of Brazil will tend to limit further expansion of cotton acreage. Nevertheless, a further depreciation of Brazilian currency and various governmental aids to cotton producers might offset, to some extent, the effect of prospective lower world prices for cotton.

PERU

Cotton is grown only in the valleys of the rainless coast (except for insignificant amounts in the Amazon region) and consequently is entirely dependent on irrigation. The climate is semitropical; there are no killing frosts and no rains to discolor the fiber. Guano, a natural fertilizer deposited on the islands off the coast of Peru by sea birds, is used in large quantities.

The fruiting of cotton depends upon the date of planting, which in turn is determined by the time when water is available for application to the soil. The rivers rise at different seasons as the sun moves southward and melts the snow and

ice on the Andes. Cotton is therefore being harvested and picked in some part of Peru almost all year round. There is no rush of the entire crop to market at one time as in other cotton countries. Itinerant Indian laborers move from one region to another during the picking seasons and return to their mountain homes when work becomes scarce.

ACREAGE, PRODUCTION, AND YIELD

The area devoted to cotton in Peru has increased from an average of 281,000 acres in 1921-1925 to a peak of 409,000 acres in 1936. Cotton acreage in Peru does not show a high degree of sensitivity to price changes because the total area of arable land is limited to existing irrigation facilities. Sugar cane is the major competitive crop, but investments in sugar mills and plantation machinery are so heavy that producers are slow to shift to cotton production and suffer losses from liquidation. Most of the new land brought under irrigation in recent years has been shifted to cotton.

Yields for the whole of Peru are usually much higher than the average for the United States but somewhat lower than for the irrigated regions of southwestern United States.

VARIETIES

The principal variety of cotton grown in Peru is known as Tanguis. The plant is perennial, produces long-staple cotton, and in 1936 made up about 89 percent of the entire Peruvian crop. Its outstanding characteristics are its ability to resist *Fusarium* wilt and the fact that it produces from 20 to 30 percent more cotton to the acre than any other type grown in Peru.

Pima cotton, a long-staple variety developed in the southwestern United States, is second in importance. It is grown only in northern Peru and in 1936 constituted about 6 percent of the total Peruvian crop. Insect and disease damage in the warmer valleys of the north became so severe that cotton growing in this area was almost abandoned until the Pima variety was introduced. It matures within 4 months after planting and enables the farmer to win the race with insects. The growing of perennial cotton plants is prohibited by law in the northern cotton district and is discouraged elsewhere because the tree is an ideal host to insects from one season to the next.

Other varieties, which constitute only about 5 percent of the total production, are Acala, Delfos, and Semiaspero.

FINANCING AND TAXATION

From 25 to 50 percent of the Peruvian cotton crop is usually sold before it is ready for picking. Loans are advanced by banks, cotton buyers, and financing institutions up to 40 or 50 percent of the estimated value of the cotton to be sold. Interest rates vary from 6 to 10 percent.

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A special export tax is levied on cotton, but is not operative at the present time. The tax is based on the Liverpool price of Good Fair Tanguis cotton and amounts to 10 percent of the proceeds of cotton exports after the cost of transportation to Liverpool and the cost of production, as estimated by the Government, have been subtracted. The officially estimated cost of production is now equivalent to about 10 cents per pound and of transportation, 3 cents per pound. The present price is less than 13 cents per pound, making the tax inoperative.

GINNING FACILITIES

There were 89 gins operating in Peru in 1937. Most of them are owned and operated by plantation owners but also do outside work for small growers. American gins predominate. Many of them are equipped with mechanical dryers because a great deal of the cotton is picked in foggy or misty weather.

EXPORT TRADE AND DOMESTIC CONSUMPTION

About 85 percent of Peru's cotton production is exported. The United Kingdom has been traditionally the major export market, followed in importance in recent years by Germany, Japan, Belgium, and France. Insignificant quantities go to the United States each year for use where long-staple cotton is needed.

There were 16 textile mills in Peru in 1937, 11 of which were located in Lima. Mill consumption has increased considerably since 1932 but still accounts for less than 15 percent of the total cotton production.

The devaluation of Peruvian currency in 1932 gave temporary stimulus to the domestic manufacturing industry by making imports more costly. During 1935, however, imports of textiles were so heavy that import quotas were imposed on each country supplying textiles to Peru. By the end of 1935 they were found to be largely unnecessary and all except those on Japanese textiles were removed.

OUTLOOK FOR EXPANSION

Further expansion of cotton acreage in Peru would have to be mainly at the expense of other crops, because additional land could be brought under irrigation only at a much higher cost than that required to irrigate the present acreage. Current world cotton prices and future prospects do not justify the expense of new irrigation works or large-scale shifts from other crops.

ARGENTINA

In the early 1920's, under the stimulus of high prices and with the aid of American experts, new types of cotton and improved methods of cotton cultivation developed in Argentina, cotton-ginning equipment was installed, and producers' cooperatives were organized. Production increased from a yearly average of 2,000 bales during 1910-1914 to a peak for the 1938-39 season estimated at more than 300,000 bales.

GROWING REGIONS

The Cotton Belt of Argentina extends across the northern part of the Republic but cotton is produced in widely separated areas. El Chaco is by far the most important area, producing in recent years from 70 to 95 percent of the total crop. No complete official survey of the cotton region as a whole has ever been made.

The combined area (157 million acres) of the six Provinces and Territories of Argentina producing cotton on a commercial scale has been compared with that of Texas (168 million acres).¹ It is pointed out, however, that the western half of this area is semiarid and mountainous, and only a small amount of irrigation is possible. Excessive rainfall in the eastern part eliminates other large areas as potential cotton land. The quality of Argentine cotton is sometimes damaged by rains that continue into the picking season. Prolonged rains also promote insect damage, which probably largely accounts for the fact that early official estimates of production are usually much higher than final estimates.

VARIETIES AND TYPES

Nearly all of the cotton grown in Argentina consists of a mixture of several varieties of American Upland and is called the Chaco Type. The cross-breeding has developed a hardy type of cotton, but the fiber is of uneven staple length and consequently is not favorably regarded in European markets. Since this type is already acclimatized, Argentine experiment stations are trying to improve the uniformity of the staple length and reduce the length of the growing period by new crosses.

Some long-staple (Sea Island) cotton is grown in Argentina. Most of it is grown under irrigation, with Santiago del Estero the chief production center. Average yield per acre of all cotton produced in Argentina is usually considerably higher than that of the United States because a large part of the cotton area is relatively new land.

COST OF PRODUCTION

Estimates of the cost of producing cotton in the principal growing area (El Chaco) vary widely because of the different methods of estimation and the changing factors involved. The Argentine Ministry of Agriculture estimated the cost of production in 1935-36 at 165.11 pesos per hectare (\$22.04 per acre), which is somewhat less than the average estimates for the United States in recent years.

Some of the factors that tend to keep the cost of production relatively low in Argentina are (1) cultivation of new land, which does not yet require the use of fertilizer; (2) low cost of labor; and (3) cheap public land, or free land in many cases, because a large part of the Argentine cotton is grown by squatters on public land, paying no rent or taxes. Free land is also the most important single factor contributing to the growth of the cotton industry in Argentina.

¹ Estabrook, Leon M., *Agricultural Survey of South America: Argentina and Paraguay*, United States Department of Agriculture Bulletin No. 1409, June 1926

The outstanding handicaps of the industry are (1) insufficiency and high cost of agricultural credit; (2) inadequate transportation facilities; (3) and frequency of droughts and locust invasions. Insect pests are very destructive in periods of excessive rainfall. Experiment stations have been established in the principal cotton areas to study the adaptability of varieties to local conditions and to commercial demands.

UTILIZATION

The production of cotton textiles is one of the most important local industries in Argentina, although it is confined largely to wide sheeting and heavy goods, with a small but increasing output of low-quality print goods. The quality of Argentine cotton is not yet satisfactory for weaving high-count fabrics. In 1937, there were 30 weaving mills with a total of 320,000 spindles producing cotton yarns.

Prior to 1937, annual exports were equal to from 60 to 80 percent of the total production. Since that year, the highly protected domestic mills have used more than half of the total crop. Great Britain was the leading purchaser of Argentine cotton until 1938. Germany, mainly through barter trade arrangements, has taken an increasing percentage of it in the last 2 or 3 years. Preliminary figures for 1938 indicate that, of a total export of 103,000 bales, 77,000 bales were shipped to Germany while less than 3,000 bales went to Great Britain. The percentage of total production represented by total exports shows a downward trend in recent years owing to the rapid growth of the domestic textile industry.

Table 2. Argentine raw-cotton exports, by leading countries of destination, averages 1921-1925 and 1926-1930, annual 1931-1938
(In bales of 478 pounds net)

YEAR	UNITED KINGDOM	GERMANY	JAPAN	OTHER COUNTRIES	TOTAL ^a	NET EXPORTS
	: Bales	: Bales	: Bales	: Bales	: Bales	: Bales
Average:	:	:	:	:	:	:
1921-1925	9,159	7,326	b	7,652	24,137	22,727
1926-1930	42,758	11,523	b	38,880	93,161	92,416
1931	83,650	4,759	b	26,977	115,386	114,954
1932	83,365	22,149	b	24,878	130,392	130,134
1933	49,147	26,082	152	19,463	94,844	94,734
1934	75,681	30,048	111	19,204	125,044	124,856
1935	47,952	59,409	3,999	56,194	167,554	167,319
1936	97,353	43,243	17,355	68,989	226,940	226,727
1937	26,437	20,672	3,487	6,963	57,559	52,995
1938 ^c	2,564	77,373	420	22,775	103,132	d
	:	:	:	:	:	:

^a Includes reexports of Paraguayan cotton

^b Included in "other countries."

^c Preliminary

^d Not yet available

Compiled from *Anuario del Comercio Exterior de la República Argentina*.

PROSPECTS FOR FURTHER EXPANSION

Various estimates place the potential cotton acreage in Argentina at more than 50 million acres as far as climate and soil are concerned. When other factors are considered, however, such as low world cotton prices, insufficient labor supply, competitive crops, and the amount of capital necessary for development of new areas, the probable expansion may be scaled down to less than 5 million acres. In a report published by the National Cotton Board after a survey made in 1937, it was indicated that with the present and prospective labor supply cotton acreage was not likely to be expanded beyond a total of 2.5 million acres within the next 10 years.

MEXICO

ACREAGE PRODUCTION AND YIELD

Acreage and production have fluctuated widely since 1910 with only a slight upward trend until 1935-36. The trend turned sharply upward after the present administration came into power in Mexico in 1934 and began construction of a number of new irrigation systems. The small 1938-39 crop is the result of the diversion of a considerable area of former cotton land to wheat and other food crops. Demand for wheat was relatively better in Mexico in 1938 than in other recent years. Also, lack of sufficient capital and equipment caused many farmers to turn to wheat, which can be produced with less investment in labor and equipment than cotton. Previous fluctuations were due largely to changing political conditions.

Average yields for the country as a whole show a downward trend from 358 pounds (lint) per acre for the 5 years ended with 1913-14 to 221 pounds for the period 1933-34 to 1937-38. The latter period contained two seasons of drought, but the downward trend in yield over a decade or more is attributed mainly to erosion of the land and to continuous cultivation with little or no fertilizer.

IRRIGATION SYSTEMS

Practically all cotton produced in Mexico is grown under irrigation. The National Irrigation Commission was organized in 1926, but little construction was started until after 1934. It is estimated that the irrigation works completed since 1930 and those now under construction will add more than 700,000 acres to the total area of about 4 million acres already under irrigation. The area to be benefited, however, cannot be estimated accurately by the capacity of the new dams because rainfall is too undependable to fill them regularly. A larger portion of the new irrigated land is planted to cotton than to any other single commodity, but large parts of it are also devoted to sugar cane, vegetables, and other food crops.

About 60 percent of Mexico's cotton is produced in the Laguna district. Roughly from 30 to 35 percent is grown on the irrigated lands in the Mexicali, Matamoros, Don Martín, and Juárez cotton districts. The national policy in recent years has been to build many small local irrigation works instead of a few large expensive dams that require long ditches to conduct water to the growing areas. The large dams already under construction, however, are being completed.

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TYPES GROWN

With the exception of some long staple in the Mexicali district, most of the cotton grown in Mexico is of the American Upland type. Under normal weather conditions, quality and staple lengths compare favorably with those of United States cotton.

TRANSPORTATION

Since cotton production in Mexico is concentrated in a limited number of specialized regions, railway facilities are available to all major producing centers. A large part of the cotton produced near the northern border goes to the United States because of the lengthy haul to the chief textile centers in the south and because of activities of American buyers in financing production across the border. These imports into the United States are usually reexported as American cotton. In addition, other quantities exported by Mexican cotton firms pass through American ports in bond.

UTILIZATION

The cotton-textile industry in Mexico has grown steadily under a protective tariff that keeps out all raw-cotton imports except small quantities of Egyptian long staple not grown in sufficient amounts in Mexico. In this way, internal prices remain relatively high so that it is more profitable for producers to hold their cotton until the domestic mills can use it than to sell it on foreign markets. The domestic prices of Mexican cotton average from 5 to 10 dollars per bale higher than prices of comparable grades in the United States.

The textile spinning and weaving industry is one of the most highly developed branches of Mexican manufacturing. About 80 percent of the total annual value of all textile production is contributed by cotton-textile mills. Only about 10 percent of Mexico's textile requirements are imported and the imports are mostly not of cotton. During the 6-year period from 1925 to 1931, annual raw-cotton consumption by domestic mills averaged about 184,000 bales. By 1937, annual consumption had reached 240,000 bales.

Cotton-textile mills are located in many of the Mexican States but chiefly in Puebla and the Federal District. Other important centers are in the States of Vera Cruz, Mexico, and Coahuila.

A considerable surplus of cotton is produced for export each year, as shown in table 3. The bulk of Mexico's raw-cotton exports goes to Japan, the United States, and Germany, and a much smaller amount to England. Cotton shipped to the United States is reexported.

OUTLOOK

Practically all of the Mexican cotton crop is grown under irrigation in widely scattered areas, most of which are in the northern plateau. Except for a narrow

fringe along the coast of Mexico on both sides, the country is made up of a great semiarid plateau, rising to mountainous heights in the south. According to the 1930 census, only 7.4 percent of the total area of the country, or 36 million acres, is arable and 79.2 percent of that area is semiarid.

With the great demand for food crops to feed Mexico's mining and industrial population, there is strong competition for the best land when economic conditions are good within the country. Heavy importations of wheat, corn, beans, and rice in recent years have resulted in a tendency to increase the acreage in these crops, with a consequent reduction in cotton acreage in some localities.

Further expansion of cotton acreage would involve large outlays of capital for irrigation works, farm implements, and ginning machinery unless the present trend were reversed and land in food crops diverted to cotton. Acreage planted each year in Mexico is not influenced by price changes to the extent that it is in other cotton-producing countries because of the Government's program of land distribution and financial aid to farm workers.

Production for domestic consumption is encouraged by a growing textile industry and high internal prices of cotton. Since there is no labor shortage, the ability of the Federal Government to finance construction of more irrigation works and to extend sufficient credit to the newly established communal workers seem to be of crucial importance to the expansion of cotton growing.

Table 3. Cotton exports from specified countries, averages 1921-1925
and 1926-1930, annual 1931 to 1938
(Bales of 478 pounds net)

YEAR	LATIN AMERICA					UNITED STATES ^a
	BRAZIL	PERU	ARGENTINA	MEXICO	TOTAL	
	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000
Average:	: bales	: bales	: bales	: bales	: bales	: bales
1921-1925	101	175	23	69	368	6,416
1926-1930	109	223	92	84	508	8,012
1931	96	207	115	49	467	9,081
1932	2	205	130	17	354	8,766
1933	54	242	95	30	421	7,810
1934	584	297	125	15	1,021	4,925
1935	639	341	167	117	1,264	6,105
1936	924	354	227	b 230	1,735	5,424
1937	1,089	356	53	b 41	1,539	5,610
1938 ^c	1,239	307	d 103	-	-	-
	:	:	:	:	:	:

^a Exports for year ended July 31. Bales of 500 pounds gross.

^b Imports not deducted.

^c Preliminary.

^d Includes reexports.

Compiled from official sources.

Table 4. Cotton production in specified countries, averages 1920-21 to 1924-25 and 1925-26 to 1929-30, annual 1930-31 to 1938-39
(Bales of 478 pounds net)

YEAR	LATIN AMERICA						UNITED STATES
	BRAZIL	PERU	MEXICO	ARGENTINA	OTHERS ^a	TOTAL	
	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000
	: bales	: bales	: bales	: bales	: bales	: bales	: bales
Average:	:	:	:	:	:	:	:
1920-21 to	:	:	:	:	:	:	:
1924-25 ..	542	198	^b 180	39	^b 52	1,011	10,980
1925-26 to	:	:	:	:	:	:	:
1929-30 ..	504	246	253	115	^b 66	1,184	15,268
1930-31	483	271	178	139	69	1,140	13,932
1931-32	555	234	210	169	76	1,244	17,097
1932-33	481	242	102	150	71	1,046	13,003
1933-34	1,014	278	260	200	71	1,823	13,047
1934-35	1,328	345	223	295	94	2,285	9,636
1935-36	1,757	393	251	373	111	2,885	10,638
1936-37	1,824	386	395	144	^c 109	2,858	12,399
1937-38	2,075	376	340	237	-	3,028	18,746
1938-39 ^d	1,877	-	260	300	-	-	12,008
	:	:	:	:	:	:	:

^a Includes Colombia, Ecuador, Haiti, Paraguay, Puerto Rico, and Venezuela

^b Partly estimated

^c Does not include Ecuador

^d Preliminary

Compiled from official sources

SUMMARY AND CONCLUSION

In weighing the factors for and against further expansion of cotton production in Latin America, the outstanding points to be considered are (1) the policies of the various national Governments in promoting cotton production as a means of greater agricultural diversification and (2) the extent to which these policies may be put into effect in view of present low cotton prices, internal economic conditions, and natural delimiting forces, such as topography, climate, and labor supply.

The chief limitation in Mexico and Peru is the ability to extend irrigation facilities or shift from other crops to cotton. The rising standard of living in each country will prevent any large-scale changes from food crops to cotton. Shifts from other cash crops are not likely unless cotton prices show great improvement. The topography of both countries makes the construction of further irrigation works difficult and prohibitive in cost except for a few minor systems in Mexico not already under construction.

In Brazil and Argentina, the situation is somewhat different. Climate, topography, soil, and access to new land make tremendous expansion possible if other factors were favorable. The chief impediments are the shortage of farm labor and

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insufficient capital available for production credit, extension of transportation facilities, and purchase of farm machinery needed in new producing areas. These handicaps are being overcome to some extent by loans from the Federal Governments, but the present outlook for world cotton prices does not justify the expenditures necessary for rapid development along these lines.

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THE MARKET FOR AMERICAN TOBACCO IN SWITZERLAND . . .

By P. G. Minneman*

The importance of Switzerland as a market for American leaf is indicated by the fact that Switzerland imports annually about 6 million pounds of United States tobacco having a value in 1938 of about \$1,600,000. About 38 percent of total Swiss import requirements of leaf tobacco is obtained from the United States. Other important suppliers are Brazil and other South American countries, the Netherlands Indies, Italy, Bulgaria, Greece, Turkey, and Hungary. Home-grown leaf supplies about one-eighth of total leaf requirements - about 2.2 million pounds compared with 15.3 million pounds of imported leaf in 1938.

Although Switzerland is a relatively small country, with a total population of only about 4,183,000, it is a particularly important market for certain types of United States leaf. It now ranks first as an export market for Maryland leaf and fourth as an export market for Western fire-cured. Fire-cured and Maryland together constitute nearly 90 percent of Switzerland's leaf imports from the United States. The following shows the quantities of the several types of United States tobacco imported into Switzerland:

Imports from United States	
Average 1937 and 1938	
1,000 pounds	
Fire-cured	3,666
Maryland	1,675
Flue-cured	419
Burley	192
Other leaf and stems	<u>139</u>
Total	6,091

The two outstanding features of the Swiss market as compared with most other countries are that the Western fire-cured leaf is used almost entirely in the manufacture of cigars and that Maryland leaf plays an important part in the manufacture of cigarettes.

* Tobacco Specialist, Foreign Agricultural Relations. Grateful acknowledgment is made to the American consular officers in Zürich and Bern for their assistance in obtaining basic information and in facilitating contacts with the trade and Government officials.

SWITZERLAND



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Fig. 1. Tobacco-growing areas of Switzerland.

There has been a steady shift away from the use of fire-cured leaf in cigars; and this, together with the import-duty preference accorded to Italian leaf used in smoking tobacco and the lower tax on home-grown leaf in cigarettes, is the most disadvantageous factor affecting the use of United States leaf. On the other hand, the consumption of cigarettes is increasing; and a shift toward lighter leaf is resulting in some increased use of flue-cured leaf and to a smaller extent of Burley, whereas the consumption of Maryland is remaining almost stable. Under the present tax rates, it is probable that these shifts will continue and that the demand for fire-cured leaf may be further reduced, that for flue-cured increased, and that for Maryland maintained at near the present level.

CONSUMPTION OF TOBACCO PRODUCTS

Total consumption of tobacco has not changed greatly since 1930. It increased from 1924 to 1930, but since then has varied only between 15 and 16 million pounds annually (figure 2).¹ On a per-capita basis, the consumption of tobacco is larger than in other continental European countries excepting the Netherlands, Belgium, and

¹ Actual consumption probably varied less from year to year than is indicated by Figure 2, since the data are based on quantities manufactured during the year.

Denmark. It is considerably lower, however, than in the United States. The following shows the approximate 1938 per-capita consumption of each of the products in Switzerland as compared with that in the United States:

	Per capita consumption	
	Switzerland	United States ^a
	Pounds	Pounds
Cigars	1.33	0.80
Cigarettes	1.12	3.10
Smoking tobacco	1.36	1.87
Chewing tobacco	b	.50
Snuff01	.28
Total	3.82	6.55

^a Estimated.

^b Less than 0.01 pounds.

Consumption is fairly evenly divided between the three principal products. Cigars and smoking tobacco each account for about 35 percent and cigarettes for about 30 percent.

Table 1. Estimated Consumption of tobacco products in Switzerland,^a 1927-1938

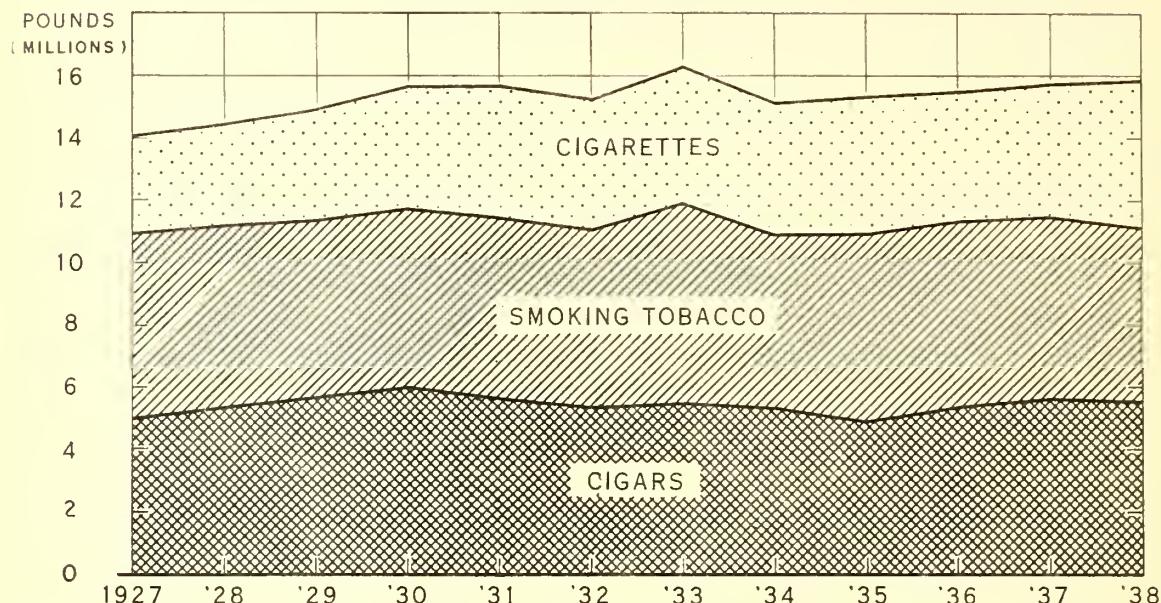
YEAR	CIGARETTES	CIGARS	SMOKING TOBACCO ^b	TOTAL
	: 1,000 pounds	: 1,000 pounds	: 1,000 pounds	: 1,000 pounds
	:	:	:	:
1927	3,220	: 4,953	: 5,947	: 14,120
1928	3,240	: 5,325	: 5,868	: 14,433
1929	3,550	: 5,649	: 5,714	: 14,913
1930	3,990	: 5,960	: 5,738	: 15,688
1931	4,190	: 5,624	: 5,892	: 15,706
1932	4,190	: 5,312	: 5,750	: 15,252
1933	4,410	: 5,446	: 6,411	: 16,267
1934	4,221	: 5,310	: 5,568	: 15,099
1935	4,452	: 4,851	: 6,061	: 15,364
1936	4,121	: 5,339	: 5,987	: 15,447
1937	4,241	: 5,626	: 5,854	: 15,721
1938	4,689	: ^c 5,540	: ^c 5,600	: ^c 15,829
	:	:	:	:

^a Official consumption data are not available. These estimates have been made from the quantities manufactured, imported, and exported on the basis of the estimated weights of cigars as shown in table 2 and 1 kilogram per 1,000 cigarettes manufactured for domestic consumption and 1.15 kilograms for those exported. Gross weights of products imported and exported have been converted to net weights as follows: Imports - cigars 50 percent, cigarettes and smoking tobacco 70 percent; exports - cigars and cigarettes 50 percent, smoking tobacco 80 percent.

^b Includes small quantities of chewing tobacco and snuff, which together made up about 3 percent of the "smoking tobacco" in 1927 and 1 percent in 1938.

^c Preliminary forecast.

CONSUMPTION OF TOBACCO PRODUCTS IN SWITZERLAND, ESTIMATED WEIGHT, 1927-38



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Fig. 2.

CIGARS

About two-thirds of the tobacco imports from the United States are of fire-cured leaf for use in the manufacture of cigars. In this respect, the Swiss market is quite different from any other country to which United States leaf is exported, with the possible exception of former Austria.

The per-capita cigar consumption in Switzerland is the third largest in Europe and considerably larger than that in the United States. Consumption increased steadily from 1924 to 1930. After declining until 1935, it has again increased to a level only slightly below the high point of 1930.

Types of cigars vary widely — Several distinctly different types of cigars are manufactured in Switzerland, varying from the conventional type of cigars and cigarillos to the short *Stumpfen* and the very dark stogy types, *Toscani* and *Brissago* (figure 3). By far the most popular is the *Stumpfen*, so called because both ends are open (table 2). This is a small cigar made largely of Java, Brazilian, and Western fire-cured leaf, with small quantities of Sumatra, Havana, domestic, and other South American leaf. They are usually wrapped with Sumatra or Java. *Stumpfen* account for about 80 percent of the total cigar consumption. Their popularity is well maintained (table 3), although there has been a distinct tendency toward lighter types with increasing proportions of Java and Brazilian and smaller proportions of fire-cured leaf.



Fig. 3. Cigar types: 1. Stuppen; 2. Toscani; 3. Brissago; 4. regular cigars; 5. cigarillos; 6. Kiel; 7. Walliser.

Toscani cigars, the second most important type, are long, dark, stogy-type cigars, wide in the middle and narrow at both ends. Both ends are open. They are commonly manufactured in double length and cut in two, either by the manufacturer or by the consumer. The resulting cigar is therefore short and of distinctly tapering or conical shape. *Toscani* are made almost entirely of Western fire-cured leaf, including the wrapper. Since the number of these cigars manufactured is officially recorded in double length, the actual number smoked is about twice the number recorded. As single length they make up about 12.6 percent of the total cigar consumption. Consumption of *Toscani* has declined since 1931 and is now from 15 to 20 percent below that of 1930 (table 3).

Brissago-type cigars, the third most important, make up nearly 8 percent of the total. These are long and slender, of uneven shape, with a straw mouthpiece and a small straw through the center, which is removed before smoking to insure draught. The use of the word "Brissago" is limited to two old factories, but other cigars of this same type are commonly known simply as Virginia cigars. *Brissago*-type cigars are made almost entirely of Western fire-cured leaf, although some are wrapped with Virginia fire-cured. The consumption of the *Brissago* type declined sharply from 1930 to 1935, and the present level is still about 25 percent below that of 1930.

Regular or "head" cigars are those with conventional cigar shape, usually with one or both ends closed. These make up only about 2 percent of the total

consumption, but a slightly larger percentage of the total weight because of the larger size. They are similar in both size and composition to those in other European countries and contain practically no United States leaf. Their average retail price is equivalent to about 10 cents each and, therefore, they are much more expensive than the popular Stumpen, which sell at from 1.3 to 2 cents each (table 2). Largely because of their relatively high price, the consumption of regular cigars has declined steadily to a level less than half that of 1930.

Cigarillos represent less than 3 percent of the consumption by number; but, although consumption has varied widely, it is now at a higher level than in 1930.

Two other minor types of cigars are the *Walliser* and the *Kiel*. The *Walliser*, named after the canton of Valais, makes up only about 1 percent of the total consumption. This cigar is dark and similar to the *Toscani* except that it is not made exclusively of United States leaf and sells at a slightly lower price. Consumption has been increasing recently. *Kiel* cigars make up only 0.1 percent of the total consumption. This cigar is of a long and slender but uniform shape with a straw mouthpiece and is made of regular light cigar leaf.

Table 2. Types, number, estimated weight, and average retail prices of cigars manufactured in Switzerland, 1937

KIND	QUANTITY MANUFACTURED	PERCENTAGE DISTRIBUTION OF NUMBER	WEIGHT (ESTIMATED)		RETAIL PRICE EACH, ESTIMATED ^a
			PER 1,000	TOTAL	
	: Millions	: Percent	: Pounds	: 1,000 pounds	: Cents
Stumpen ...:	410.1	: 79.6	: 10.5	: 4,294	: 1.6
Toscani ^b ...:	34.7	: 6.7	: 16.5	: 575	: 3.2
Brissago ...:	39.9	: 7.7	: 11.0	: 440	: 2.8
Regular ...:	9.7	: 1.9	: 15.4	: 150	: 9.6
Cigarillos :	12.8	: 2.5	: 6.0	: 76	: 2.3
Walliser ...:	5.8	: 1.1	: 13.2	: 76	: 2.9
Kiel:	2.6	: 0.5	: 11.0	: 28	: 3.4
Total ...:	515.6	: 100.0	: 11.0	: 5,639	: 2.0

^a In United States cents converted at the average rate of exchange for 1937.

^b Data for *Toscani* are for double length equal to two cigars.

Quantities of cigar leaf required - Nearly all the cigars consumed in Switzerland are manufactured domestically. The import and export trade is relatively unimportant, as indicated by the following data for 1937:

	Number 1,000 cigars	Estimated weight 1,000 pounds
Manufactured	515,557	5,640
Imported	1,226	16
Exported	2,245	30
Consumed	514,538	5,626

Table 3. Number of cigars manufactured in Switzerland, by kinds, 1927-1937

YEAR	STUMPEN	TOSCANI ^a	BRISSAGO	REGULAR CIGARS	CIGA- RILLOS	WALLISER	KIEL	TOTAL
	: <i>Thou-</i>	: <i>Thou-</i>	: <i>Thou-</i>	: <i>Thou-</i>	: <i>Thou-</i>	: <i>Thou-</i>	: <i>Thou-</i>	: <i>Thou-</i>
	: <i>sands</i>	: <i>sands</i>	: <i>sands</i>	: <i>sands</i>	: <i>sands</i>	: <i>sands</i>	: <i>sands</i>	: <i>sands</i>
1927	315,183:	30,902:	61,132:	23,770:	10,377:	4,183:	4,578:	450,125
1928	344,506:	36,864:	58,329:	24,349:	9,781:	3,740:	5,488:	483,057
1929	364,986:	42,355:	63,114:	23,035:	9,329:	3,243:	5,314:	511,376
1930	403,722:	41,063:	58,770:	22,097:	10,482:	3,516:	4,780:	544,430
1931	375,074:	42,794:	52,816:	21,311:	9,673:	3,361:	5,211:	510,240
1932	375,845:	34,831:	41,825:	16,570:	6,204:	3,303:	3,848:	482,427
1933	390,315:	33,129:	42,248:	16,968:	6,277:	3,275:	3,433:	495,645
1934	385,235:	29,449:	39,960:	15,078:	8,867:	3,179:	3,794:	485,562
1935	356,501:	26,280:	35,614:	12,581:	7,415:	2,573:	2,693:	443,662
1936	396,812:	30,877:	37,162:	10,444:	8,501:	3,202:	3,024:	490,022
1937	410,085:	34,750:	39,920:	9,705:	12,766:	5,755:	2,576:	515,557
	:	:	:	:	:	:	:	:

^a Data for Toscani are for double length, each equal to two cigars.

Official Government data, unpublished.

The total quantity of leaf required for the manufacture of cigars in Switzerland is much greater than the weight of the finished product, not only because of (1) the loss of from 18 to 27 percent through the removal of stems, but also because of (2) the soaking process to which all fire-cured leaf and some of the other leaf is submitted in the manufacturing process and (3) the loss through waste. This loss greatly affects the amount of leaf required in the manufacture of cigars but is not necessarily a net loss to the tobacco industry as a whole since the stems are largely used in the manufacture of smoking tobacco, the scraps in snuff, and the liquid resulting from the soaking process in the manufacture of tobacco extract.

The process of soaking leaf is general, with the principal exception of the relatively unimportant regular cigars and cigarillos. It consists of placing the leaf for a number of hours in a vat containing water, which removes part of the nicotine and strong flavor of the fire-cured leaf. As a result, the leaf loses from 8 to 12 percent in weight. When the loss through the removal of stems and waste is added to this, the total loss amounts to from 30 to over 40 percent, depending upon the type of product.²

The total weight of all kinds of cigars manufactured in 1938 is estimated at about 5.5 million pounds, whereas the total leaf requirements of the cigar industry in 1938 were about 8.8 million. The following shows the estimated quantities of the several kinds of leaf used by cigar manufacturers in 1938:

² The total losses used in the calculations for this report are as follows: Toscani and Brissago, 40 percent; Stumpen, 37 percent; regular cigars, Kiel, and Walliser, 30 percent; and cigarillos, 25 percent.

1,000 pounds

From United States:	
Western fire-cured	3,084
Virginia fire-cured	148
Other types	37
Total United States	3,269
From other countries:	
Sumatra	254
Java	2,068
Brazil	2,200
Other South American	654
Cuba	93
Italy	45
Manila	4
Total other	5,318
Total imported	8,587
Home-grown:	233
Total	8,820

Most of the Virginia fire-cured leaf consists of about 80 hogsheads of wrappers used for the Virginia Brissago cigars. About 150 hogsheads of the Western fire-cured are wrappers and the remainder is leaf primarily from the Clarksville-Springfield area.

Table 4. Quantities of leaf imported for use in cigars, total imports from specified sources (used largely in cigars), and estimated weight of cigars manufactured in Switzerland 1926-1938

YEAR	LEAF IMPORTED FOR USE IN CIGARS			TOTAL LEAF IMPORTED FROM			WEIGHT OF CIGARS MANUFACTURED
	FROM UNITED STATES		TOTAL	NETHER - LANDS INDIES	BRAZIL	CUBA	
	WESTERN FIRE-CURED	TOTAL					
	: Million	: Million	: Million	: Million	: Million	: Million	: Million
	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds
1926 ..:	-	-	7.42	-	-	-	-
1927 ..:	-	-	7.20	-	-	-	5.02
1928 ..:	4.50	4.61	7.81	1.72	1.30	0.59	5.40
1929 ..:	4.82	4.97	8.48	2.00	1.40	.79	5.73
1930 ..:	4.92	5.06	8.98	2.22	1.69	.98	6.06
1931 ..:	4.62	4.73	8.55	2.27	1.93	.10	5.71
1932 ..:	4.00	4.12	8.12	2.28	2.29	.09	5.35
1933 ..:	4.14	4.28	9.10	2.68	2.72	.14	5.48
1934 ..:	3.37	3.55	7.69	2.27	2.12	.09	5.33
1935 ..:	2.98	3.12	7.59	2.42	2.28	.08	4.88
1936 ..:	3.11	3.29	7.91	2.48	2.34	.09	5.37
1937 ..:	3.47	3.66	9.12	2.71	2.75	.09	5.64
1938 ..:	3.02	3.21	8.48	2.34	2.56	.10	5.55
	:	:	:	:	:	:	:

It will be noted that United States leaf made up about 38 percent of the imported leaf used in the manufacture of cigars in 1938. The proportion has declined

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steadily from nearly 60 percent in 1928. This decline has been due primarily to the change in consumer taste favoring lighter types. To date there has been little direct substitution of fire-cured leaf from other countries. Table 4 shows the changes in the use of the several kinds of cigar leaf since 1928. Since fire-cured is practically the only kind of United States leaf used in cigars, the long-time outlook for United States leaf in this product is relatively unfavorable.

CIGARETTES

The most outstanding feature of the Swiss cigarette industry, so far as American producers are concerned, is the importance of Maryland leaf, which accounts for from 37 to 44 percent of all cigarette leaf imported into Switzerland. A favorable factor in recent years, also, has been the gradual increase in the use of flue-cured leaf. Perhaps the most unfavorable feature is the increasing use of home-grown leaf in cheap cigarettes as a result of tax preference on cigarettes containing 50 percent or more home-grown leaf.

Cigarette consumption increased rapidly until 1933, remained at a constant level during depression years, and again increased to a record level in 1938. Per-capita cigarette consumption is comparable with that in other continental European countries but considerably below that in England and the United States. Prices of the most popular brands vary widely from the equivalent of about 9 cents to 23 cents per package of 20.

Types of cigarettes vary - At least five different kinds of cigarettes are manufactured in Switzerland. The most important is the "dark" cigarette similar to the French type. Next in order of importance are those made from pure oriental leaf, those made largely from home-grown leaf, pure flue-cured or English type, and finally the American-type, blended cigarettes. Some American tobacco is used in each of these types with the exception of the oriental cigarettes.

The *oriental* type of cigarettes were formerly more important; but since the war their popularity on the domestic market has gradually decreased, partly because of their relatively higher price. It is estimated that oriental cigarettes now make up only about 21 percent of the cigarettes manufactured for domestic consumption. There is a considerable export volume, however, primarily to Italy, which is almost entirely of oriental-type cigarettes (table 5). It is estimated that nearly 25 percent of the oriental leaf is used in the manufacture of cigarettes for export.

Oriental cigarettes, as a class, are more expensive than other types, the cheaper brands selling at from 18 to 23 cents and the more expensive from 34 to 45 cents per package of 20. During recent years, oriental leaf has enjoyed a more favorable import-duty rate than formerly, and this fact, coupled with the drop in prices for oriental leaf during 1935 and 1936, has resulted in lower prices for cigarettes and some increased consumption of the oriental type. These factors will be discussed later.

The *French*, "dark," or "black" cigarettes, sometimes referred to as "Parisienne," have gained in popularity since the war and now make up about half the total

cigarette consumption. This type is particularly important to American growers because of the large quantity (about 1.5 million pounds annually) of Maryland tobacco used in their manufacture. It is estimated that an average of about 70 percent of the mixture in these cigarettes is Maryland. The remainder is largely of such types as Paraguay and Argentine leaf. These cigarettes commonly sell at 15 cents per package of 20 and until recently were the lowest-priced cigarettes on the market. Recently, however, with the introduction of still cheaper cigarettes, this type has lost some ground.

Table 5. Estimated quantities of several types of cigarettes manufactured for domestic consumption and export, and estimated quantities of several kinds of leaf required, 1938

TYPE	NUMBER MANUFACTURED	PER- CENTAGE DISTRIBUTION	RETAIL PRICES PER PACKAGE ^a	KIND OF LEAF USED				
				IMPORTED			HOME- GROWN	TOTAL
				UNITED STATES	ORIENTAL	OTHER		
	:	:	:	1,000	1,000	1,000	1,000	1,000
For domestic consumption:	: Million	: Percent	: Cents	: pounds	: pounds	: pounds	: pounds	: pounds
Oriental ..	440	21	18-34	0	1,180	0	0	1,180
French ...	1,012	49	15	1,540	0	600	75	2,215
Home-grown:	365	17	9-11	90	65	0	645	800
Virginia ..	170	8	18-23	325	0	40	0	365
Blended ..	110	5	15-18	160	100	10	0	270
Total ..	2,097	100	-	2,115	1,345	650	720	4,830
For export ^c ...	142	-	-	20	400	0	0	420
Total	2,239	-	-	2,135	1,745	650	720	5,250
	:	:	:	:	:	:	:	:

^a Of 20; converted to United States currency at the average rate of exchange for 1938.

^b Almost entirely Maryland leaf.

^c Exported cigarettes are almost entirely oriental type.

The cigarettes made largely from *home-grown* leaf have greatly increased in popularity since 1937 as a result of the tax preference, which has permitted them to be sold at prices considerably lower than those for any of the other types. Cigarettes containing at least 50 percent home-grown leaf are subject to a lower rate of excise tax, and for those made entirely of home-grown leaf the tax is still lower. Prices of the popular brands of these cigarettes run from 9 to 11 cents per package (table 5).

Most of the cigarettes in this group contain well over 50 percent home-grown leaf, but very few are made entirely of home-grown leaf. It is estimated that the average proportion is about 80 percent. Small quantities of Maryland and other types are added. How much further the consumption of these cigarettes will increase is problematical, depending on the one hand upon the continuation of the subsidy or tax preference and on the other hand upon whether a sufficiently high quality of home-grown leaf can be maintained to satisfy consumers. The increased popularity of these cigarettes has undoubtedly resulted in some reduction in the use of Maryland leaf in the French-type cigarettes.

The Virginia or *pure flue-cured* cigarettes and the *blended* or American type are both of fairly recent introduction and relatively unimportant, although their consumption is increasing. The Virginia type, selling at from 18 to 23 cents, is the more important of the two. Blended cigarettes are cheaper (15 to 18 cents) but are in competition with the popular imported American brands, which, although sold at higher prices, have the advantage of well-known brand names. It appears probable that the consumption of both Virginia and blended cigarettes will continue to increase gradually.

Shift in types consumed - No data are available on the shift in types of cigarettes, except the data on the quantities of oriental-type leaf imported since 1924 as compared with the total leaf imported for use in the manufacture of cigarettes. Since that date, oriental leaf has declined in importance, from nearly 50 percent of the total used in cigarettes to 33 percent in 1933 and 1934 and to 39 percent in 1938 (table 6). An indication of the increasing popularity of flue-cured and blended cigarettes is the quantity of flue-cured leaf used (table 14).

Another indication of the shift in type of cigarettes is the country of origin of imported cigarettes. The volume of cigarette imports is small, amounting to only about 1.5 percent of total consumption, but there has been considerable change in the source from which these cigarettes are imported, as indicated in table 6. The proportion of oriental-type cigarettes from Egypt has declined from about 33 percent in the period 1921-1925 to 12 percent in 1936-1938. Imports from other European countries (largely oriental-type) have declined even more sharply. At the same time, imports from the United States (largely blended cigarettes) have increased from 15 to 81 percent of the total.

Table 6. Percentage distribution, by sources of cigarette imports into Switzerland, averages 1921-1925 to 1936-1938

PERIOD	UNITED STATES	UNITED KINGDOM	EGYPT (ORIENTAL)	OTHERS (LARGELY ORIENTAL)	TOTAL
	Percent	Percent	Percent	Percent	Percent
Average -	:	:	:	:	:
1921-1925 ..	15.4	24.4	32.6	27.6	100
1926-1930 ..	41.6	21.0	22.5	14.9	100
1931-1935 ..	62.3	10.0	20.2	7.5	100
1936-1938 ..	81.2	5.5	12.0	1.3	100
:	:	:	:	:	:

Trade and leaf requirements - Relatively large quantities of cigarettes are exported, totaling about 375,000 pounds (net weight) in 1938, or about 7 percent of the total manufactured. About 80 percent of these are oriental-type cigarettes shipped to Italy under the agreement with the Italian Monopoly. Consequently the total quantity of oriental leaf used in Swiss manufactures is considerably greater than that used in cigarettes actually consumed in Switzerland.

The following shows the number and estimated weight of cigarettes manufactured in 1938, compared with the quantities imported, exported, and consumed:

Foreign Agriculture

	Number	Weight ^a
	<i>Million cigarettes</i>	<i>1,000 pounds</i>
Manufactured	2,239	4,984
Imported ^b	32	77
	<u>2,271</u>	<u>5,061</u>
Exported	142	375
Consumed	<u>2,129</u>	<u>4,686</u>

^a Estimated^b Estimated from gross weight

The quantity of leaf required by cigarette manufacturers is somewhat greater than the weight of cigarettes manufactured because of the loss from the removal of some of the stems and from dust and sand. Most of the stems, however, especially in the lower-priced cigarettes, are again added to the mixture after they have been specially treated and shredded. The average weight of the cigarettes consumed in Switzerland is estimated to be about 2.2 pounds per 1,000. The more expensive cigarettes, especially the oriental type, weigh more, but this is offset by some of the popular cheap brands that weigh only about 2 pounds.

Table 7. Quantity of imported leaf used in manufactured cigarettes in Switzerland. 1926-1938, and estimated weight of cigarettes manufactured, 1934-1938

YEAR	IMPORTED LEAF USED IN CIGARETTES						WEIGHT OF CIGARETTES MANU FACTURED
	FROM UNITED STATES			ORIENTAL	TOTAL ^b		
	MARYLAND	FLUE CURED AND BURLEY	TOTAL ^a				
:	<i>Million</i>	<i>Million</i>	<i>Million</i>	<i>Million</i>	<i>Million</i>	<i>Million</i>	
:	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	
:	:	:	:	:	:	:	
1926	—	—	—	1.29	2.86	—	
1927	—	—	—	1.37	3.38	—	
1928	1.21	0.10	1.31	1.54	3.28	—	
1929	1.77	.12	1.89	1.49	4.02	—	
1930	1.89	.15	2.05	1.62	4.42	—	
1931	1.91	.20	2.13	1.73	4.70	—	
1932	1.94	.20	2.15	1.65	4.66	—	
1933	2.21	.21	2.44	1.65	5.08	—	
1934	1.86	.19	2.06	1.44	4.26	4.54	
1935	2.04	.21	2.27	1.76	4.78	4.79	
1936	1.42	.24	1.67	1.65	3.85	4.42	
1937	1.54	.31	1.89	1.78	4.24	4.63	
1938	1.68	.41	2.14	1.78	4.55	4.98	
:	:	:	:	:	:	:	

^a Includes small quantities of other United States types.^b Includes some leaf other than Oriental and United States types

The following shows the approximate quantities of each of the types of United States leaf and the estimated quantities of other leaf used in the manufacture of cigarettes in 1938:

United States leaf 1,000 pounds		Other imported leaf 1,000 pounds	
Maryland	1,685	Oriental ^b	1,745
Flue-cured	375	Other types ^c	650
Burley	35	Total imported ..	4,530
Other ^a	40	Home-grown leaf	720
Total	2,135	Total	5,250

^a Largely fire-cured.

^b About 60 percent from Greece, nearly 20 percent each from Bulgaria and Turkey, and small quantities from Rumania and Russia.

^c Largely from Paraguay and Argentina; also from numerous other countries.

SMOKING TOBACCO AND OTHER PRODUCTS

Smoking tobacco accounts for about 35 percent of the total consumption of tobacco products in Switzerland. Consumption is being maintained at approximately the level of 1930, but the proportion of imported leaf used in its manufacture has declined sharply, largely as a result of the use of home-grown leaf (table 9). Small quantities of chewing tobacco and snuff are also consumed, but the total of these is equal to only about 1 percent of that of smoking tobacco (table 8).

The following shows the quantities of these products manufactured in 1937 and the estimated net weight of imports, exports, and consumption:

	Weight 1,000 pounds
Manufactured:	
Cut smoking tobacco	5,629
Roll smoking tobacco	192
Chewing tobacco	64
Snuff	5
Total	5,890
Imported ^a	13
Total	5,903
Exported ^a	49
Consumed	5,854

^a Net weight assumed to be 70 percent of gross weight imported and 80 percent of gross weight exported.

Smoking tobacco is relatively cheap with an average retail price of about 7 francs per kilogram, equivalent to about 72 cents per pound. Popular cheap brands sell at considerably lower prices. These contain relatively large proportions of stems and home-grown leaf. There is also some increase in weight through the addition of sauce and moisture. Consequently, the actual weight of the leaf used in the manufacture of smoking tobacco is considerably less than the weight of the finished product. The total quantity of leaf used in these products in 1937 is estimated to have been equivalent to only about 59 percent of the weight of the finished product, and the quantity of imported leaf actually amounted to only 42 percent of the weight of the products. Home-grown leaf makes up more than one-third and imported leaf less than two-thirds of the leaf requirements for these products.

Table 8. Quantities of smoking tobacco, chewing tobacco, and snuff, and number of cigarettes manufactured in Switzerland, 1927-1938

YEAR	SMOKING TOBACCO	CHEWING TOBACCO	SNUFF	TOTAL	CIGARETTES
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Millions</i>
1927	5,805,891	25,450	163,105	5,994,446	-
1928	5,749,994	19,993	99,798	5,869,785	-
1929	5,664,418	19,802	64,903	5,729,123	-
1930	5,678,172	17,209	90,334	5,785,715	-
1931	5,802,192	13,962	104,716	5,920,870	-
1932	5,698,774	39,535	36,173	5,774,482	-
1933	6,387,998	10,728	74,921	6,473,647	-
1934	5,639,113	10,313	31,288	5,680,714	2,041
1935	6,030,436	9,405	61,209	6,101,050	2,155
1936	5,989,753	7,903	37,262	6,034,918	1,990
1937	5,821,782	4,570	64,066	5,890,418	2,080
1938	-	-	-	-	2,239
:	:	:	:	:	:

Official Government data, unpublished

Smoking tobacco is generally of the dark, fine-cut type. Nearly half of the imported leaf used in its manufacture is fire-cured, but about three-fourths of this is obtained from Italy under the special favorable import-duty rate. The cheaper brands are made largely of home-grown leaf, Italian fire-cured, Hungarian, and South American leaf, with the addition of stems from the cigar industry. The more expensive brands contain larger proportions of Virginia fire-cured, as well as flue-cured and Burley. Some of the better and lighter brands are used extensively for roll-your-own cigarettes.

Table 9. Quantity of smoking tobacco^a manufactured and weight of imported leaf used in Switzerland, 1927-1938

YEAR	QUANTITY MANU- FACTURED	IMPORTED LEAF USED IN MANUFACTURE			
		UNITED STATES		ITALY	TOTAL
		FIRE CURED	TOTAL		
	<i>Million</i>	<i>Million</i>	<i>Million</i>	<i>Million</i>	<i>Million</i>
	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>
1927	5.99	-	-	0.18	3.01
1928	5.87	0.79	0.90	.25	2.79
1929	5.73	.78	.89	.22	3.14
1930	5.79	.68	.78	.20	3.17
1931	5.92	.67	.77	.20	3.44
1932	5.77	.47	.56	.28	3.31
1933	6.47	.62	.74	.42	3.67
1934	5.68	.54	.96	.38	2.94
1935	6.10	.42	1.00	.47	2.94
1936	6.03	.31	.87	.36	2.79
1937	5.89	.26	.58	.61	2.48
1938	-	.22	.49	.89	2.20
:	:	:	:	:	:

^a Includes chewing tobacco and snuff equal to about 1 percent of total

The following shows the quantities of the several types of United States leaf used by smoking-tobacco manufacturers in 1938 and the estimated quantities from other sources. It will be noted that United States leaf makes up only about 14 percent of the total leaf requirements, whereas Italy supplies 22 percent and domestic production about 36 percent of the total.

	1,000 pounds
United States leaf	
Fire-cured	220
Burley	128
Flue-cured	95
Maryland	42
Other	1
Total	486
Other imported leaf	
Italian	778
South American	514
Hungarian	220
Other	222
Total	1,734
Total imported	2,220
Home-grown leaf	1,250
Total	3,470

TOTAL LEAF REQUIREMENTS AND SOURCES

The total quantity of leaf required by Swiss manufacturers in 1938 is estimated at about 17.5 million pounds, of which about 15.3 million, or 87 percent, was imported and 2.2 million was home-grown (table 10). Over half of the imported leaf is used in cigars, over one-fourth in cigarettes, and less than 20 percent in smoking tobacco. Of the United States leaf, 55.4 percent is used in cigars, 36.3 percent in cigarettes, and only 8.3 percent in smoking tobacco.

The relative importance of the several kinds of leaf in each product is indicated in table 11. The various kinds of *air-cured* leaf (including cigar leaf) are by far the most important in all of the products and make up 62 percent of the total. Of the 10.9 million pounds of air-cured leaf, the United States supplied only 1.9 million or 18 percent, largely Maryland leaf in cigarettes. Principal sources of air-cured types are the Netherlands Indies, Brazil, other South American countries, and Hungary, and domestic production.

Fire-cured leaf is next in importance, with 4.3 million pounds, of which the United States in 1938 supplied about 3.5 million, or 80 percent. That used in cigars is almost entirely from the United States, but about 80 percent of that in smoking tobacco is from Italy. There are no other important sources.

Flue-cured leaf is of relatively minor importance. The total quantity used probably amounts to about 575,000 pounds, most of which is used in cigarettes. About 80 percent is from the United States and the remainder from Rhodesia, Algeria, China, Japan, and India.

Table 10. Estimated leaf requirements in Switzerland, by products, and by source and kind of leaf, 1938

SOURCE AND KIND	CIGARS	CIGARETTES	SMOKING TOBACCO ^a	TOTAL
	: 1,000 pounds	: 1,000 pounds	: 1,000 pounds	: 1,000 pounds
United States				
Western fire cured ...:	3,084	7	20	3,111
Virginia fire cured ..:	148	33	200	381
Maryland	10	1,685	42	1,737
Flue cured	-	375	95	470
Burley	7	35	128	170
Other	20	-	1	21
Total	3,269	2,135	486	5,890
Others				
Oriental producers ^b ...:	-	1,745	45	1,790
South America ^c	2,947	439	514	3,900
Netherlands Indies ...:	2,322	-	111	2,433
Italy	45	59	778	882
Hungary	-	66	220	286
Others ^d	4	86	66	156
Total imported	8,587	4,530	2,220	15,337
Home-grown ^e	233	720	1,250	2,203
Total	8,820	5,250	3,470	17,540

^a Includes small quantity of chewing tobacco and snuff^b Greece, Bulgaria, Turkey, Rumania, the Soviet Union^c Two-thirds from Brazil; the rest from the Dominican Republic, Paraguay, Argentina, and Colombia^d Algeria, South Africa, China, Japan, India, and the Philippines.^e Redried weight

Table 11. Percentage distribution of leaf requirements in Switzerland, by kinds of leaf and sources, estimated, 1938

ITEM	PRODUCT			TOTAL
	CIGARS	CIGARETTES	SMOKING TOBACCO	
	: Percent	: Percent	: Percent	: Percent
Kind of leaf -				
Air cured ^a	63	58	66	62
Fire cured	37	1/2	29	25
Flue cured	-	8 1/2	4	3
Oriental	-	33	1	10
Total	100	100	100	100
Source -				
United States	37	40	14	34
Oriental producers ...:	-	33	2	10
Others	60	13	48	43
Domestic production ..:	3	14	36	13
Total	100	100	100	100

^a Including cigar types.

Table 12 shows the quantities of imported leaf required annually for the manufacture of each product since 1924 compared with the quantity of home-grown leaf. Most outstanding is the decline in imported-leaf requirements for smoking tobacco since 1930. Attention should be called to the fact that these data represent the quantities imported during the year and undoubtedly show a wider variation from year to year than the actual quantities used by manufacturers, since manufacturers' stocks at the end of some years were larger than other years. Furthermore, the actual quantities of imported leaf used during 1924 and 1925 were probably larger than would be indicated by these data since unusually large quantities were imported in 1920 and 1923, possibly in anticipation of increases in import duty. Part of these larger imports were carried over into succeeding years.

Table 12. Leaf requirements in Switzerland, by quantities imported for use in each product and home-grown leaf available, 1924-1938

YEAR	IMPORTS FOR USE IN THE MANUFACTURE OF				HOME-GROWN LEAF ^a	TOTAL
	CIGARS	CIGARETTES	SMOKING TOBACCO, ETC	TOTAL		
	:1,000 pounds:	:1,000 pounds:	:1,000 pounds:	:1,000 pounds:	:1,000 pounds:	:1,000 pounds:
1924	: 2,685	: 1,125	: 373	: 4,183	: 790	: 4,973
1925	: 5,948	: 2,385	: 1,347	: 9,680	: 1,075	: 10,755
1926	: 7,423	: 2,857	: 2,480	: 12,760	: 1,344	: 14,104
1927	: 7,201	: 3,385	: 3,011	: 13,597	: 1,070	: 14,667
1928	: 7,811	: 3,277	: 2,790	: 13,878	: 933	: 14,811
1929	: 8,485	: 4,018	: 3,142	: 15,645	: 960	: 16,605
1930	: 8,980	: 4,421	: 3,167	: 16,568	: 1,669	: 18,237
1931	: 8,552	: 4,704	: 3,436	: 16,692	: 1,609	: 18,301
1932	: 8,121	: 4,664	: 3,312	: 16,097	: 1,491	: 17,588
1933	: 9,102	: 5,077	: 3,674	: 17,853	: 1,165	: 19,018
1934	: 7,689	: 4,256	: 2,941	: 14,886	: 1,562	: 16,448
1935	: 7,593	: 4,782	: 2,943	: 15,318	: 2,151	: 17,469
1936	: 7,912	: 3,850	: 2,790	: 14,552	: 2,251	: 16,803
1937	: 9,119	: 4,238	: 2,479	: 15,836	: 1,875	: 17,711
1938	: 8,478	: 4,548	: 2,198	: 15,224	: 1,569	: 16,793
:	:	:	:	:	:	:

^a Average quantities available from three preceding crops; farm weight reduced by 15 percent.

CHANNELS OF TRADE

The larger manufacturers in Switzerland, as in other countries, endeavor to purchase more and more of their leaf direct from the country of production. It is estimated that about 70 percent of the United States leaf is now purchased direct from leaf dealers in the United States or their European agents, whereas only about 30 percent is purchased through local dealers in Switzerland and other European countries. Manufacturers usually place their orders on the basis of samples submitted to them as soon as the marketing of the crop in the United States is well under way.

United States leaf is usually not shipped for some time, frequently 6 months, after the order is placed. Even then much of the leaf is held in Belgian bonded warehouses until it is actually required by the Swiss manufacturers. Some is stored

in bonded warehouses in Switzerland at Basel and Zürich and some in the larger manufacturers' own bonded factory warehouses. There is obviously an advantage in holding the leaf under bond until actually required for manufacture because the duty is payable only when the leaf is "imported," that is, withdrawn from bond.

The period between the time the leaf is shipped from the United States and the time it is imported into Switzerland sometimes amounts to 2 years. Consequently, statistics on exports from the United States and imports into Switzerland vary widely. Furthermore, from one-half to two-thirds of the United States leaf imported into Switzerland is stored for some time in Belgian seaport bonded warehouses; and, when this tobacco is shipped from the United States, its destination is commonly given as Belgium. Thus, whereas Switzerland has actually imported from 5.8 to 6.4 million pounds of United States leaf annually during recent years, declared exports from the United States have totaled only from 2.5 to 4.8 million. During the past 4 years, the quantity imported into Switzerland averaged 65 percent greater than United States exports to Switzerland. The difference was greatest for Burley and Virginia fire-cured and least for Maryland and Western fire-cured, as indicated by the following data for the average of the 4 years 1935-1938:

	Exports from United States to Switzerland ^a 1,000 pounds	Imports of United States leaf into Switzerland ^a 1,000 pounds
Maryland and Ohio	1,382	1,745
Western fire-cured	1,938	3,210
Virginia fire-cured	113	393
Flue-cured	165	353
Burley	42	309
Other (including stems) ..	34	125
Total	3,674	6,135

^a Calculated from data published by the United States Department of Commerce

^b Official data from Swiss Government* unpublished

Although most United States leaf enters Switzerland through Belgian ports, smaller quantities are also shipped through Netherland, German, French, and Italian ports.

Leaf from other countries passes through various channels. Oriental leaf is largely shipped direct to the large manufacturers in Switzerland, whereas leaf from the Netherlands Indies is all handled through bonded warehouses in Amsterdam and Rotterdam and leaf from South American countries is purchased partly on European markets and partly direct.

STOCKS LARGE BUT SCATTERED

Stocks held or controlled by the larger manufacturers are usually fairly large, probably about 2 years' supply. But not all the leaf is held in Switzerland. Some may be on order in the United States, some in warehouses in European ports, and

some held in Swiss customs warehouses in Basel, Zürich, and Chiasso, and in manufacturers' bonded warehouses. Actual stocks of imported (duty-paid) leaf in Swiss factories are very small and probably amount to only 1 or 2 months' requirements.

HOME-GROWN TOBACCO INCREASING

Switzerland produced in 1938 about 3 million pounds of tobacco, farm weight. It is estimated that manufacturers used in 1938 about 2.2 million pounds (redried weight) of home-grown leaf, or about 14 percent of their total leaf requirements.

The archives at Payerne show that tobacco has been produced in western Switzerland for over 200 years. But with the increase in trade, supplies of foreign tobacco increased, especially as consumers began to demand lighter and milder types. From 1910 until about 1930, manufacturers were using less than a million pounds of home-grown leaf (redried) annually. Consumption was increased to about 1.3 million by 1935, but growers increased their plantings even more rapidly (table 13). With the unusually high yield of 1934, production exceeded requirements for several years and excessive stocks accumulated. In 1936, a system of excise-tax preference to home-grown leaf used in cigarettes was introduced, with the result that the use of home-grown leaf increased to about 2.2 million pounds in 1938. The excessive stocks had been reduced, and growers were in a position again to increase plantings in 1937 and 1938. If the subsidy through lower taxes is continued, growers hope to increase production soon to, roughly, 3.5 million pounds, farm weight.



Fig. 4. Home-grown leaf.

Tobacco growing in Switzerland is distinctly a small-scale enterprise, with an average of only about half an acre per farm. Plants are set out about the middle of May on medium-heavy to light soils, and the first of the three primings begins in August. The leaves are strung on strings, dried in air-curing barns, and later packed into bundles for sale to manufacturers.

Production is almost entirely of air-cured leaf. About three-fourths is native dark air-cured types generally similar to those grown in southern Germany and in Alsace Lorraine. The production of Burley was begun about 10 years ago, and in 1934 increased efforts were made to improve the quality, particularly of the lighter tobacco. With the tax preference on leaf used in cigarettes, renewed attention has been given to lighter leaf. Experiment stations have now developed variety crosses particularly adapted to local conditions. Between 20 and 25 percent of the tobacco grown is Burley. A small proportion, probably less than 10 percent, is the Italian type Nostrano.

There are two principal tobacco-growing regions (figure 1), the largest being the Broye Valley in western Switzerland with the center at Payerne in the canton of Fribourg. The second largest is in southeastern Switzerland with the center at Mendrisio, south of Lugano, near the Italian border in the canton of Tessin. In addition, smaller quantities are grown in eight other regions.

The Broye Valley produces about 1.7 million pounds, or around 60 percent of the total. The types here consist almost entirely of the native brown pipe tobacco, known as Mt. Calme after the experiment station where the improved variety was developed. Although prices of this pipe tobacco are relatively low, about 14 to 20 cents per pound for the better grades, yields are relatively high at nearly 2,000 pounds per acre. Approximately 13,000 plants are set per acre.

The production in Tessin accounts for nearly 35 percent of the total. Production here was increased more than 400 percent from 1922 to 1929. About two-thirds of the tobacco in this area is now Burley, which is better adapted to use in cigarettes and is sold at the relatively high price of from 26 to 36 cents per pound for good grades. Some Italian Nostrano and Foglietta, as well as the Mt. Calme variety, are also grown in this area. The price of the Italian types is considerably lower than for Burley.

Smaller quantities of various other types are grown in other parts of the country. Production has recently been expanded in some of these areas as efforts are made to find the most suitable regions for the production of the lighter types, especially Burley. A light or "yellow" Mt. Calme air-cured variety has been developed for use in cigarettes. Experiments have also been made with flue-cured types, but the results have been less satisfactory than from Burley. A few flue-curing barns have been constructed for experimental purposes and satisfactory results have been obtained from flue-curing Burley, as well as some of the lighter native types, but artificial drying is not now used on a commercial basis.

The production and marketing of tobacco are carefully regulated. Growers in each of the producing areas have their own organizations, and all manufacturers who use home-grown tobacco are also formed into an organization known as Sota. The

latter, in conjunction with the growers' organizations, each fall determines the prices that will be paid for the next year's crop. In addition, manufacturers are required to specify the quantities of the several grades of home-grown leaf that they will purchase from the next crop. The growers' organizations then allocate acreage for the production of these quantities. Growers thus know what quantities they can sell and what prices they will receive before the crop is planted.

The future of home-grown tobacco depends largely upon the degree of Government subsidy. The present excise-tax preference and freedom from import duty make home-grown leaf much cheaper to manufacturers than imported leaf. As long as this continues, it is probable that increased quantities will be used. On the other hand, because of the limitations of soil and climate and the profitable alternative use for the limited land area, it is unlikely that production will increase very greatly.

Table 13. Acreage, production (farm weight), yields, and prices of home-grown tobacco in Switzerland, 1938 with comparisons

YEAR	AREA	PRODUCTION	AVERAGE YIELD PER ACRE	AVERAGE PRICE PER KILOGRAM	NUMBER OF PLANTERS
Average -	<i>Acres</i>	<i>1,000 pounds</i>	<i>Pounds</i>	<i>Francs</i>	<i>Number</i>
1910-1914 ...	-	941	-	-	-
1915-1919 ...	-	907	-	-	-
1920-1924 ..	-	1,053	-	-	-
1925-1929 :	-	1,587	-	-	-
1930	661	1,038	1,570	1.77	2,526
1931	883	1,338	1,515	1.76	2,597
1932	1,093	1,687	1,543	1.68	2,892
1933	1,545	2,441	1,580	1.55	3,636
1934	1,914	3,468	1,812	1.45	4,307
1935	1,279	2,028	1,586	1.27	3,972
1936	820	1,116	1,361	1.47	3,384
1937	1,453	2,386	1,642	1.64	3,626
1938 ^a	1,790	2,976	1,663	^b 1.60	3,700
:	:	:	:	:	:

^a Preliminary.

^b Equivalent to about 16.6 cents per pound.

Reports of the Administration Fédérale des Contributions, de Suisse.

FACTORS AFFECTING THE USE OF UNITED STATES LEAF

The principal factors affecting the quantity of United States leaf used are as follows:

1. Changes in the volume of consumption, both long-time trends and short-time or cyclical variations.
2. Shifts in consumer taste from one product to another and from one type of leaf to another.
3. Variations in supply and relative price of competitive leaf.
4. Government measures, especially variations in the rate of taxation.

The two most important factors, so far as United States leaf is concerned are the change in consumer taste and the level of taxation on United States leaf as compared with that on other leaf.

Table 11. Quantities of each kind of United States leaf imported into Switzerland for use in specified products,
1928-1938

YEAR	FIRE CURED ^a				MARYLAND-OHIO				FLUE-CURED			
	CIGARS	CIGA- RETTES	SMOKING TOBACCO ^b	TOTAL	CIGARS	CIGA- RETTES	SMOKING TOBACCO ^b	TOTAL	CIGARS	CIGA- RETTES	SMOKING TOBACCO ^b	TOTAL
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds
1928	4,571	2	789	5,362	-	1,206	15	1,221	-	97	72	169
1929	4,913	9	774	5,697	-	1,768	19	1,787	-	108	80	188
1930	5,008	14	677	5,699	-	1,891	7	1,898	-	125	88	213
1931	4,674	12	667	5,353	-	1,912	6	1,918	-	110	87	197
1932	4,060	16	464	4,540	-	1,936	10	1,946	-	116	84	200
1933	4,228	16	623	4,867	-	2,211	14	2,225	-	146	84	230
1934	3,492	12	537	4,041	-	1,863	57	1,920	-	134	103	237
1935	3,077	9	419	3,505	-	2,043	84	2,127	-	162	85	247
1936	3,248	14	312	3,574	-	1,423	78	1,501	-	213	120	333
1937	3,618	33	255	3,906	6	1,544	64	1,614	-	276	90	366
1938	3,164	42	220	3,426	11	1,683	42	1,736	-	375	96	471
	:	:	:	:	:	:	:	:	:	:	:	:
	BURLEY				OTHER LEAF				TOTAL			
	CIGARS	CIGA- RETTES	SMOKING TOBACCO ^b	TOTAL	CIGARS	CIGA- RETTES	SMOKING TOBACCO ^b	TOTAL	CIGARS	CIGA- RETTES	SMOKING TOBACCO ^b	TOTAL
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds
1928	4	3	19	26	37	-	1	38	4,612	1,308	896	6,816
1929	15	9	19	43	40	-	1	41	4,968	1,895	893	7,756
1930	14	21	12	47	41	1	c	42	5,063	2,052	784	7,899
1931	12	93	8	113	47	2	2	51	4,733	2,129	770	7,632
1932	18	81	5	104	45	3	c	48	4,123	2,152	563	6,838
1933	10	68	15	93	43	c	c	43	4,281	2,441	736	7,458
1934	11	52	260	323	45	2	1	48	3,548	2,063	958	6,569
1935	c	48	407	464	35	2	2	39	3,121	2,264	997	6,382
1936	9	24	356	389	36	c	c	36	3,293	1,674	866	5,833
1937	8	38	168	214	32	c	c	32	3,604	1,891	577	6,132
1938	7	35	127	169	26	-	1	27	3,208	2,135	486	5,829

^a Nearly 90 percent Western and slightly over 10 percent Virginia fire-cured.

^b Includes small quantity of chewing tobacco and snuff.

^c Less than 500 pounds.

Official Government data, unpublished.

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CONSUMPTION INCREASING SLOWLY

During the past 10 years, the weight of tobacco products consumed in Switzerland is estimated to have increased about 1 million pounds or 7 percent. Most of this increase in consumption has been offset by an increased use of home-grown leaf, with the result that the quantity of leaf imported in 1938 exceeded only slightly the level of 10 years ago.

During periods of depression and reduced consumer purchasing power, notably in 1934 and 1935, consumption declined possibly 4 percent below the 1930 level (table 1). When industrial activity increased from 1936 to 1938, total consumption again rose beyond its former level. As might be expected, consumption of the more expensive product, namely cigars, declined more sharply, by about 15 percent during the depression period, and rose again more rapidly when consumer purchasing power was increased. On the other hand, consumption of smoking tobacco has varied little; but, because it is the cheapest of tobacco products, consumption tended to increase slightly during depression periods as smokers turned from the more expensive cigars and cigarettes. For cigarettes, the long-time tendency toward increased consumption resulted in relatively sharp increases during periods of prosperity and the maintenance of a fairly uniform level even in periods of depression.

SHIFTS IN TASTE UNFAVORABLE TO FIRE-CURED LEAF

Fairly rapid changes in consumer taste have had profound effect on the demand for the various types of United States leaf. Not only has there been a shift toward cigarettes, but there has also been a shift toward lighter cigars. The Toscani and Brissago cigars, which are made almost entirely of American fire-cured leaf, have declined in importance during the past 10 years from nearly 20 percent of the total consumption of cigars to about 14 percent (table 3). Of equal importance has been the tendency toward lighter mixtures in Stumpfen, which has resulted in the use of less fire-cured leaf and more Java and Brazil leaf (table 4). From 1921 to 1923, fire-cured leaf made up about 82 percent of the United States leaf imported into Switzerland, whereas for the period 1936 to 1938 it declined to only 61 percent. During the same time the lighter types, Maryland, flue-cured, and Burley, increased from 1.1 million pounds to nearly 2.3 million.

Table 15 shows the changes in quantities of United States fire-cured leaf used in cigars and smoking tobacco during the past 10 years. It will be noted that during this period the quantity used in cigars declined about one-third - from 57.4 percent of the imported leaf to 39.3 during the past 3 years. The quantity used in smoking tobacco declined about two-thirds.

It is estimated that the change in consumer taste during the past 10 years has resulted in a loss of market for nearly 2 million pounds of United States fire-cured leaf annually. The effective competition of fire-cured leaf from other sources until now has been limited to that used in smoking tobacco and, therefore, practically all the loss in cigars and part of that in smoking tobacco must be attributed to a change in taste. There is no indication that the shift away from fire-cured leaf will be reversed in the near future, and a further reduction in demand for this type may be expected even if other factors remain unchanged.

Table 15. Quantities and proportions of United States fire-cured and light leaf used in specified products in Switzerland, average 1936-1938 with comparisons

AVERAGES	FIRE-CURED		MARYLAND, FLUE-CURED, AND BURLEY	
	CIGARS	SMOKING TOBACCO	SMOKING TOBACCO	CIGARETTES
Quantity -	: 1,000 pounds	: 1,000 pounds	: 1,000 pounds	: 1,000 pounds
1928-1930	4,330	: 746	: 110	: 1,743
1932-1934	3,926	: 542	: 210	: 2,203
1936-1938	3,342	: 262	: 379	: 1,870
Change from 1928-1930:	Percent	: Percent	: Percent	: Percent
to 1936-1938	-31	: -65	: +244	: +7
Proportion of total -	:	:	:	:
1928-1930	57.4	: 24.8	: 3.7	: 44.3
1932-1934	47.3	: 16.4	: 6.8	: 47.2
1936-1938	39.3	: 10.5	: 14.9	: 44.3
Change from 1928-1930:	:	:	:	:
to 1936-1938	-18.1	: -14.3	: +11.2	: 0

INCREASE IN CIGARETTE CONSUMPTION FAVORS LIGHT TYPES

Although the most popular Swiss cigarettes are the relatively dark French type, these contain a large proportion of Maryland leaf. Furthermore, the proportion of lighter, American-type blended cigarettes and the English type of pure flue-cured cigarettes, although still small, is increasing steadily. This shift toward lighter types, and especially the increasing consumption of cigarettes as a whole, has resulted in a tendency to maintain consumption of Maryland leaf and to increase that of flue-cured and Burley. Part of the latter is used in the manufacture of light, fine-cut smoking tobacco eventually used for hand-rolling cigarettes. The quantity of United States flue-cured leaf used in Switzerland increased from 169,000 pounds in 1928 to 471,000 pounds in 1938. Practically all the increase was for use in cigarettes. Similarly the quantity of Burley increased from only 26,000 pounds to 160,000 pounds, largely for use in smoking tobacco (table 14).

Although the increased use of home-grown leaf in cigarettes results in smaller requirements of imported leaf, the use of home-grown leaf relies heavily on blending with Maryland to produce an acceptable cigarette. The general shift toward lighter types is expected to continue and to be accompanied by a gradual increase in demand for light types from the United States.

EFFECT ON LEAF PRICES

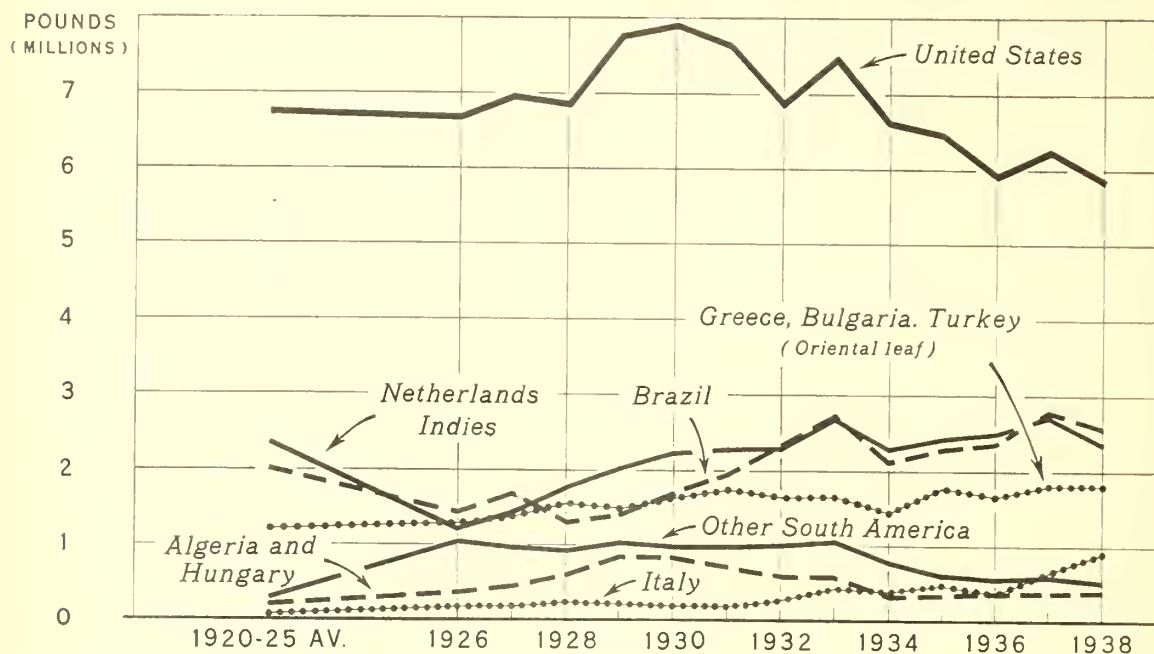
As a whole, Switzerland uses relatively high-priced leaf, especially in cigarettes and cigars. Since leaf from other countries is usually not of a type and quality identical with that from the United States, it is not possible to make comparisons strictly on a price basis. Wide or sustained price variations, however, do result in substitution of cheaper leaf of generally similar characteristics or changes in the proportion of the several kinds of leaf in the blend. Furthermore, if lower prices for other leaf are sustained, manufacturers introduce new cheaper brands containing increased proportions of the cheaper leaf. There are a large number of brands on the market and new ones are frequently introduced.

Table 16. Leaf prices in Switzerland, by kinds of leaf, as indicated by average import values per kilo, ram, 1922-1938

KIND AND SOURCE	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
<i>:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:Franks:</i>																	
Oriental -	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Greece	10.15	8.93	8.20	7.22	6.77	6.78	6.63	5.87	6.57	6.11	6.10	5.17	4.87	4.36	4.07	4.83	5.02
Bulgaria	4.44	5.28	4.76	4.18	3.74	5.17	4.17	4.02	4.46	5.37	5.02	4.25	3.83	3.20	3.17	3.39	3.38
Turkey	5.93	6.09	5.67	5.74	5.44	5.56	4.29	4.22	4.45	5.27	4.87	4.23	3.43	2.91	2.88	3.51	3.70
Soviet Union: 6.65	4.79	3.09	2.68	4.74	3.02	1.40	1.50	2.78	5.63	5.98	3.05	2.82	3.00	3.19	3.92	2.55	
Average	8.36	7.43	6.55	6.10	5.05	6.12	5.83	5.16	5.68	5.73	5.58	4.70	4.25	3.72	3.57	4.27	4.45
Netherlands	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Indies	2.41	2.37	6.58	5.52	4.74	4.77	4.92	4.65	4.07	3.71	3.24	2.76	2.43	2.18	2.00	2.11	2.43
Brazil	1.42	1.64	2.05	2.14	2.13	2.04	2.22	2.32	2.22	1.85	1.38	1.19	1.19	1.04	0.98	1.09	1.22
Paraguay ^a	0.99	2.56	1.54	1.63	1.58	1.51	1.51	1.50	1.44	1.25	0.82	0.72	0.71	0.70	0.70	0.81	0.87
Argentina	2.02	2.99	3.56	2.72	2.43	2.49	2.46	2.48	2.44	2.06	1.44	1.42	1.24	1.14	1.08	1.20	1.35
Colombia	-	-	1.88	1.66	1.22	1.24	1.67	1.56	1.31	1.19	0.80	0.73	0.84	0.80	0.83	0.86	0.82
Dominican	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Republic	-	-	-	-	-	-	-	-	-	1.29	1.02	0.96	0.93	0.86	0.77	0.79	0.89
Cuba	1.35	1.52	3.44	2.08	1.92	1.92	1.99	1.76	1.66	4.18	3.19	2.56	2.61	2.63	2.27	2.75	3.08
Philippines	0.99	3.41	2.39	2.31	2.29	1.84	1.82	1.80	1.73	1.80	1.34	1.48	1.10	1.01	0.89	0.92	0.93
Italy	-	3.10	1.16	1.60	1.99	1.30	1.32	1.55	2.28	2.25	2.00	1.61	1.55	1.67	1.34	1.31	1.25
Hungary	2.53	1.74	1.95	2.00	1.44	1.71	1.21	1.22	1.19	1.07	0.82	0.80	0.75	0.65	0.54	0.63	0.70
Algeria	1.96	1.82	1.98	1.92	1.66	1.50	1.49	1.51	1.51	1.46	1.43	1.16	1.09	1.02	0.93	0.96	0.98
India	1.22	1.21	-	1.48	1.20	1.97	1.15	1.53	1.07	0.79	0.79	0.77	0.55	0.51	0.48	0.56	0.60
China	2.73	2.96	4.04	3.42	3.72	3.68	3.09	2.64	2.50	2.38	1.69	1.75	1.64	1.42	1.32	1.81	1.83
Japan	3.01	4.63	-	3.10	2.29	4.22	4.04	2.79	3.70	3.41	2.97	2.63	2.04	1.65	1.62	1.69	1.55
United States	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Western	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
fire-cured:	-	-	-	-	-	-	2.39	2.37	2.37	2.31	2.10	1.82	1.54	1.44	1.37	1.51	1.68
Virginia	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
fire-cured:	-	-	-	-	-	-	2.04	1.80	1.68	1.67	1.40	1.31	1.28	1.24	1.38	1.61	2.02
Maryland	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
and Ohio	-	-	-	-	-	-	5.93	5.97	5.91	5.68	4.04	4.12	3.64	3.05	3.61	4.19	4.54
Flue-cured	:	:	:	:	:	:	3.50	3.62	3.49	3.41	2.95	2.66	2.10	2.14	2.13	3.03	2.99
Burley	:	:	:	:	:	:	2.84	3.28	4.14	2.70	2.35	1.81	0.95	0.89	0.90	1.22	1.23
Average	3.30	3.00	3.54	3.10	3.34	3.22	3.03	3.19	3.22	3.15	2.81	2.59	2.13	2.15	1.97	2.30	2.65

^a Uruguay until 1928

IMPORTS OF LEAF TOBACCO INTO SWITZERLAND, BY PRINCIPAL COUNTRIES OF ORIGIN, AVERAGE 1920-25 AND ANNUAL 1926-38



U. S. DEPARTMENT OF AGRICULTURE

NEG. 35693

OFFICE OF FOREIGN AGRICULTURAL RELATIONS

Fig. 5.

The average prices of the several types of United States leaf in each product as compared with the prices of the principal kinds of leaf from other countries are shown in table 17. These prices are in Swiss currency; and it must be pointed out that during 1933 to 1936 the Swiss prices shown for United States leaf were abnormally low because during these years immediately following devaluation in the United States the Swiss franc increased in value about 66 percent. Consequently, although prices of United States leaf in terms of Swiss francs were abnormally low in 1934 and 1935, in terms of United States currency they were abnormally high. Following the devaluation of the Swiss currency in 1936, the value of the Swiss franc in terms of United States currency was again reduced to a level only about 9 percent above that which existed prior to 1933.

It must also be pointed out that the values shown in table 17 represent the value at the time the leaf was imported into Switzerland, that is, used in manufacture. In other words, there is a lag of at least 2 years between the prices shown in the table and the prices that prevailed for the leaf on the auction markets in the United States. There has also been some change in the quality of leaf as manufacturers reduced their retail prices in an endeavor to maintain consumption during periods of depression, or as a result of unusually severe competition, or following increased taxation. Table 16 shows the average import values for leaf from each source from 1922 to 1938.

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Fire-cured leaf - Italy is practically the only source of fire-cured leaf on the Swiss market directly competitive with the United States. Direct comparison on a price basis is extremely difficult for several reasons: (1) Italian leaf when used in smoking tobacco is subject to a materially lower rate of import duty than is United States fire-cured leaf; (2) Italian leaf is largely imported in exchange for cigarettes exported to the Italian Monopoly, and the relatively higher prices for Italian leaf are partly offset by charging higher prices for the exported cigarettes; (3) the quality of Italian leaf is generally inferior to that of the United States leaf.

Because of the difference in quality and because of the import-duty advantage when used in smoking tobacco, Italian leaf has been largely limited to that product. During the 6 years, 1928-1933, the average value of Italian fire-cured used in smoking tobacco was 36 percent higher than that of United States fire-cured used in that product. During this period about two and one-half times as much United States leaf was used in smoking tobacco as Italian leaf. But the price of Italian leaf has declined more than that of United States, and the quality has improved. By 1937-38, the average value of Italian was only 14 percent above that of United States, and Italian had replaced about two-thirds of United States fire-cured leaf in smoking tobacco, a loss amounting to about one-half million pounds in 1938.

In the case of leaf for cigars, the price competition is largely indirect with other kinds of leaf rather than fire-cured leaf from competitive sources. When relatively low-priced Java and Brazilian filler leaf are available, manufacturers tend to increase the proportion of these types and to reduce the proportion of Western fire-cured filler (table 17). At the same time, the lower prices for Java and Brazil permit the retail prices of Stumpen to be reduced in comparison with Brissago and Toscani cigars made exclusively of United States fire-cured leaf. In 1938, the average import value of the Western fire-cured leaf used in the manufacture of cigars was equivalent to 17.5 cents per pound. Lug grades used for filler were quoted from 9 to 15 cents per pound, c.i.f., whereas the wrapper grades of Western fire-cured were priced at 25 or 30 cents and Virginia fire-cured wrappers from 35 to 38 cents. Java and Brazilian filler were quoted at the equivalent of from 9 to 12 cents per pound and have a lower stemming loss.

A potential threat of further loss in the market for fire-cured leaf is the possibility that manufacturers of Brissago and Toscani cigars may introduce Italian leaf into these products. Heretofore very little Italian has been used in these cigars because the quality of the leaf was not satisfactory and the price no lower than for United States leaf. Manufacturers now report some improvement in quality and reduction in price. Furthermore, when Swiss exporters have frozen credits in Italy, they are frequently willing to sell these obligations at a discount, thus permitting importers to obtain Italian leaf at a cost considerably less than the nominal price. Increased activity in this direction is reported in 1939.

Maryland leaf - Maryland leaf plays an important part in the popular dark cigarettes, particularly because Maryland is well adapted to blending with such leaf as Paraguay, Argentine, and domestic. Relatively high prices are paid for suitable grades of Maryland cigarette leaf. The average import value in 1938 was equivalent

to 48 cents per pound as compared with only 19 cents per pound for the relatively small quantity of Maryland used in smoking tobacco. Leaf strictly comparable with Maryland is not available from any other source and, therefore, price competition is of an indirect nature. Certain types of Java and South American leaf available at much lower prices are substituted to some extent. Variation in consumption also results when the price of oriental leaf falls more than that of Maryland, thus permitting manufacturers to place on the market cheaper brands of oriental cigarettes.

Table 17. Leaf prices in Switzerland, as indicated by average import values, average 1937-1938 with comparisons

KIND	VALUE PER KILOGRAM, AVERAGE				INDEX OF VALUES, 1928-1933 = 100		
	1928- 1930	1931- 1933	1934- 1936 ^a	1937- 1938	1931- 1933	1934- 1936 ^a	1937- 1938
CIGAR LEAF	Francs	Francs	Francs	Francs	Index	Index	Index
United States ^b	:	:	:	:	:	:	:
Western fire-cured ...	2.43	2.12	1.47	1.60	93	65	70
Virginia fire-cured ...	3.62	3.39	2.40	2.88	97	69	82
Other imported ^c	:	:	:	:	:	:	:
Netherlands Indies ...	4.54	3.27	2.20	2.27	84	56	58
Brazil	2.25	1.47	1.04	1.16	79	56	62
	:	:	:	:	:	:	:
CIGARETTE LEAF	:	:	:	:	:	:	:
United States ^b	:	:	:	:	:	:	:
Maryland	5.95	4.82	3.74	4.49	89	69	83
Flue-cured	4.33	3.71	2.52	3.50	92	63	87
Burley	3.88	2.05	1.22	2.07	69	41	70
Other imported ^c	:	:	:	:	:	:	:
Oriental	5.56	5.34	3.85	4.36	98	71	80
Paraguay-Argentina ...	1.80	1.29	0.93	1.06	86	62	70
SMOKING TOBACCO	:	:	:	:	:	:	:
United States ^b	:	:	:	:	:	:	:
Fire-cured	1.49	1.14	0.87	1.12	84	61	83
Flue-cured	2.45	1.98	1.43	1.57	89	65	71
Burley	2.94	2.57	0.87	0.96	93	32	35
Maryland	4.58	3.52	1.57	1.84	88	39	45
Other imported ^c	:	:	:	:	:	:	:
Italy	1.62	1.95	1.52	1.28	109	85	72
Hungary	1.21	0.90	0.65	0.67	85	62	63
	:	:	:	:	:	:	:

^a During these 3 years the average value of the Swiss franc was 31.69 cents as compared with 19 31 cents in 1928-1930, 21.21 cents in 1931-1933, and 22.904 cents in 1937-1938.

^b Values for United States leaf are for quantities used in the respective products in the years indicated.

^c Values for other imported leaf are for total quantities imported irrespective of use.

Burley - Burley is more readily replaced by other light air-cured types, such as Java and even home-grown Burley, especially in smoking mixtures, and is consequently more subject to price competition. From 1934 to 1936 (table 17), the average value of imported Burley was sharply reduced, partly as a result of more

favorable exchange rates: and consequently the quantity of Burley increased to three or four times that during preceding years. When Burley costs rose in 1937-1938, consumption again declined.

Flue-cured leaf - Some flue-cured leaf is obtained from China, Japan, India, Rhodesia, and Algeria, but the total quantity from such sources is relatively small and used largely in smoking tobacco, whereas four-fifths of the United States flue-cured leaf is now used in cigarettes. That used in cigarettes is of higher-quality cutting leaf, largely in the pure flue-cured and blended cigarettes. The average import value of United States flue-cured leaf for use in cigarettes was equivalent to 36 cents per pound in 1938 as compared with only 16 cents per pound for that used in smoking tobacco. Competition is most severe in the lower-priced grades used for smoking tobacco. For this purpose Indian leaf threatens to be an increasingly important competitive tobacco. (See prices of Indian and United States leaf in table 16.)

TAXATION

The influence of Government action on the Swiss tobacco industry is exerted almost entirely through taxation. The tobacco import leaf trade is free from quotas and manufacturers are relatively free from other restrictions. Although the Government has various kinds of compensation and clearing agreements with numerous tobacco-exporting countries, such as Greece, Bulgaria, Turkey, Rumania, Hungary, Yugoslavia, Italy, the Netherlands, Brazil, and Argentina, such agreements are primarily to facilitate clearance of payments, with the possible exception of those with Italy and the Netherlands, which will be discussed later.

Taxation is twofold, through an import duty and an excise tax, but complicated by numerous different rates. The import duty is levied at specific rates varying with the different types and with the uses that are to be made of the leaf. Some types are therefore placed in a more favorable position than others. Home-grown leaf is distinctly favored through being exempt from the import duty and by having in addition a lower rate of excise tax when used in cigarettes to the extent of more than 50 percent of the mixture. The lower import duty on Italian fire-cured in smoking tobacco and the lower excise tax on home-grown in cigarettes both operate to the disadvantage of United States leaf.

Import duty - The use to which leaf imported into Switzerland is to be placed must be declared. As a general principle, leaf used in cigars is taxed at a considerably lower rate than that used in the other products because the manufacture of cigars requires much more hand labor and therefore is an important factor in maintaining employment. Consideration is also given to the fact that cigars weight more and therefore require more leaf per unit and that most of the cigar leaf has heavy losses through the soaking process.

The rates of import duty on the various kinds of leaf for use in each of the products since 1924 are shown in table 18. The import duty is levied on a gross-weight basis, but in the case of leaf packed in hogsheads, such as United States leaf, allowance is made by taking the net weight plus 1 percent.

Table 18. Swiss import duties on tobacco, by kinds of leaf used in each product, in Swiss francs per kilogram, gross weight, 1924-1939

KIND OF LEAF AND USE	YEAR RATE BECAME EFFECTIVE			
	1924 ^a	1933	1936	1937 ^b
	Francs	Francs	Francs	Francs
CIGARS	:	:	:	:
United States fire-cured and Rio Grande..	1.70	1.60	1.60	1.20
Italian fire-cured	1.70	1.70	1.70	1.20
Java and Brazil	2.20	2.30	2.30	1.90
Other United States and South American ..	1.70	1.70	1.70	1.30
Sumatra and Havana	2.80	3.00	3.00	1.90
SMOKING TOBACCO	:	:	:	:
Italian fire-cured Type "D" ^d	1.70	1.70	1.70	1.20
United States fire-cured and Rio Grande :	2.50	3.00	3.00	2.70
Java	3.00	3.00	3.00	2.70
Burley and flue-cured	3.60	3.00	3.00	2.70
CIGARETTES	:	:	:	:
Air-cured and fire-cured	6.10	8.00	6.75	6.75
Flue-cured	8.00	9.00	6.75	6.75
Oriental	12.00	10.00	6.75	6.75
	:	:	:	:

^a Rates varying with kind and use were first introduced in 1921.

^b Rates effective in 1939.

^c Rate reduced to 1.9 francs on Sumatra through trade agreement April 1937; rate on Havana and other wrapper leaf remains at 2.6.

^d Italian Type "D" for use in smoking tobacco is permitted to enter at the same rate as for use in cigars, effective April 1924

It will be noted that the duty on United States fire-cured leaf when used in cigars is 1.2 francs per kilo (12.3 cents per pound), when used in smoking tobacco 2.7 francs (27.6 cents), and when used in cigarettes 6.75 francs (69.2 cents). Other United States types are subject to the same rates, with the exception of the small quantity of other types used in cigars and of Florida wrapper, etc., when the rates are, respectively, 1.3 francs and 2.0 francs per kilogram.

Most of the cigar leaf from other countries is subject to a higher duty than United States leaf. Because such other types "go farther," that is, lose less weight through soaking and stemming. The duty on Java and most Brazil leaf is 1.9 francs compared with 1.2 francs on fire-cured and the Rio Grande Brazilian. Italian fire-cured in cigars is subject to the same low rate, 1.2 francs, as United States fire-cured. The duty on Sumatra and Havana wrapper is theoretically 3 francs per kilo, but under a trade agreement with the Netherlands in April 1937, Sumatra is permitted entry at the same rate as Java (1.9 francs).

Leaf to be used for smoking tobacco is taxed at a higher rate than that for cigars, yet considerably lower than that for cigarettes because smoking tobacco is considered the poor man's smoke. Formerly varying rates of import duty were applied to the different types of leaf, but now a uniform rate of 2.7 francs per kilo (27.6 cents per pound) is levied on all imported leaf for this purpose with the exception

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of oriental leaf and Italian. Very small quantities of oriental with a duty of 6.75 francs are used for this purpose. Since April 1924, Italian Kentucky, Type "D," fire-cured leaf for use in smoking tobacco has been permitted to enter at the same rate as Italian fire-cured leaf for use in cigars, the rate for which is now 1.2 francs per kilogram. Italian leaf in smoking tobacco, therefore, now has an advantage of 1.5 francs per kilogram (about 15.5 cents per pound) when compared with United States leaf.

Leaf for use in cigarettes is all subject to the uniform rate of 6.75 francs per kilogram (69.2 cents per pound). Formerly air-cured types (largely Maryland) were taxed at a lower rate, flue-cured at a higher rate, and oriental leaf at a materially higher rate for the reason that the oriental cigarettes were a relatively high-priced, luxury product, capable of paying a higher rate of duty. Oriental leaf, of course, has no stemming loss.

Excise taxes - Excise taxes on tobacco are of relatively recent origin in Switzerland, having first been introduced in 1933 with a levy of 0.6 franc per kilogram (6.2 cents per pound) on all leaf used in the manufacture of cigars and smoking tobacco, and 5 francs per 1,000 cigarettes (table 19). To obtain increased revenue, the rate on smoking tobacco was increased in 1936 to 1.3 francs and on cigarettes to 10 francs. That on cigars was not increased for the reason that any increased price might result in reduced consumption and consequent unemployment, since cigars are hand-made, whereas smoking tobacco and cigarettes are machine-made. In 1937 the rate on cigars was reduced to 0.4 franc and on smoking tobacco to 1.2 francs per kilogram. In January 1938, the rate on smoking tobacco was increased to 2.2 francs and on twist to 2 francs per kilogram.

On cigarettes, the excise tax is levied on a unit basis, whereas on cigars and smoking tobacco it is levied on the total weight of raw material used. In 1936, when the import duty on cigarette leaf was lowered, the excise tax was raised to 10 francs per 1,000, but a lower rate of 5 francs was provided for cigarettes containing a specified percentage of home-grown leaf. The same basic rate is still applicable in 1939, but an elaborate scale of reductions or refunds applies on various classes of cigarettes depending upon (1) the proportion of home-grown leaf used, (2) the retail selling price, (3) whether the cigarettes are hand-made, and (4) the volume of output of the manufacturer. These adjustments are made to encourage the use of home-grown leaf in cheap cigarettes and to favor the smaller manufacturers and those who make hand-made cigarettes. Similar refunds are also applicable to small cigar manufacturers and to Swiss smoking-tobacco manufacturers who were registered before November 15, 1937.

Tobacco taxes in Switzerland are not so high as in some European countries, but nevertheless the total of the import duty and excise tax on tobacco amounted to nearly 45 million francs in 1937, or three times as much as the total value of imported leaf. Tobacco taxes were equal to about \$2.45 per capita compared with about \$2.34 in the Netherlands in 1938, \$4.25 in the United States, and \$8.10 in England. It must be noted, however, that the per-capita consumption in Switzerland is smaller than in England and much smaller than in the Netherlands and the United States.

Table 19. Excise tax rates applicable to tobacco products in Switzerland, in francs per kilogram, 1933-1939

PRODUCT	DATE RATE BECAME EFFECTIVE				
	NOVEMBER 1933	FEBRUARY 1936	JULY 1937	JANUARY 1938	
				ORIGINAL UNITS	UNITED STATES CURRENCY PER POUND
	Francs	Francs	Francs	Francs	Cents ^a
Cigars ^b	0.60	0.60	0.40	c 0.40	4.1
Smoking tobacco ^b	0.60	1.30	1.20	d 2.20	22.5
Twist, chewing to- bacco and snuff ^b ...	0.60	1.30	1.20	d 2.00	20.5
Cigarettes ^e	5.00	f 10.00	f 10.00	f 10.00	102.3
	:	:	:	:	:

^a Converted at the current (July 1939 average) rate of exchange.

^b For all products except cigarettes the net weight of raw materials is used as a basis for excise taxes.

^c Reduced rates on cigars are applicable to small manufacturers.

^d Reduced rates on tobacco are applicable to manufacturers registered before November 15, 1937.

^e For cigarettes the tax is calculated per 1,000 cigarettes (1 kilogram).

^f This basic rate is reduced for (1) cigarettes containing more than 50 percent home-grown leaf; (2) hand-made cigarettes; and (3) cigarettes made by small manufacturers.

Taxes have been increased rapidly since 1920 (table 20). Prior to that date, the import duty was at the rate of 0.25 franc per kilogram. In 1920, it was increased to 0.75 franc and in 1921 practically doubled through the introduction of rates from 1.4 to 10 francs, varying with the kind of leaf and use.

Table 20. Annual collections of tax revenue in Switzerland, 1937 with comparisons

YEAR	IMPORT DUTY ^a	EXCISE TAX	TOTAL
	Million francs	Million francs	Million francs
Average -	:	:	:
1913-1919	3.2	-	3.2
1920-1924	11.2	-	11.2
1925-1929	20.7	-	20.7
1930	25.4	-	25.4
1931	26.3	-	26.3
1932	25.4	-	25.4
1933	26.8	-	26.8
1934	28.0	11.0	39.0
1935	28.2	13.1	41.3
1936	23.3	18.0	41.3
1937	22.7	22.1	44.8
	:	:	:

^a Including small amount on manufactured tobacco products.

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DUTY PREFERENCE ON ITALIAN LEAF

Although United States fire-cured leaf pays the same import duty as Italian leaf when used in cigars, its position in smoking tobacco is very unfavorable as a result of the duty preference on Italian leaf. Until 1924, considerable Western fire-cured was used in smoking tobacco; but in that year the Swiss Government granted a materially lower rate to Italian leaf known as Kentucky Type "D," a relatively low-grade fire-cured tobacco. This duty preference has been continued ever since, and in 1938 was equivalent to 15.5 cents per pound in favor of Italian. In return, the Italian Tobacco Monopoly buys relatively large quantities of Swiss oriental-type cigarettes.

It is difficult to determine accurately to what extent the decline in use of United States fire-cured has been due to this preference and to what extent to the shift to lighter types. In cigars, where United States leaf enjoys an equal duty, very little Italian is used; but in smoking tobacco, with a duty preference equal to more than the cost of the leaf, Italian has largely replaced Western fire-cured. Statistics on the quantities of United States fire-cured used in smoking tobacco are available since 1928, and during these 11 years the quantity so used has declined from 789,000 to 220,000 pounds (table 14), mostly Virginia fire-cured. On the other hand, imports of Italian leaf, almost entirely fire-cured for smoking tobacco, increased from practically none prior to 1924 to 890,000 pounds in 1938 (table 9).

SUBSIDY ON HOME-GROWN LEAF

Until 1936, United States leaf used in cigarettes was subject to a lower import duty than oriental leaf. From 1921 to 1933, the duty on Maryland was only about one-half, and that on flue-cured only two-thirds, as high as on oriental leaf. In February 1936, this advantage was removed and all imported cigarette leaf was taxed at the same rate. Manufacturers who were at that time able to obtain relatively low-priced oriental leaf introduced new brands of cheaper cigarettes and the proportion of oriental leaf increased while that of Maryland declined. With subsequently higher prices for oriental leaf, the proportion of oriental again declined in 1938 to near its former level.

But most of the decrease in Maryland since 1936 has been due to the increased use of home-grown leaf as a result of the lower excise tax on cheap cigarettes containing large proportions of home-grown leaf. As a result of this measure, introduced in February 1936, the use of home-grown leaf in cigarettes increased rapidly during the 3 years 1936-1938. Although some Maryland is blended with home-grown leaf in the cheap cigarettes, the proportion of Maryland is very much smaller than in the medium-priced popular French type of cigarettes, which have suffered most through the introduction of the subsidized home-grown leaf.

In the law of 1937, the basic excise tax on cigarettes retailing at 40 centimes per package of 20 and containing 90 percent of home-grown leaf is 5 francs per 1,000 compared with 10 francs per 1,000 on the 65-centime French-Maryland brands. At these basic rates, the cigarettes made from imported leaf would have an import

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duty of about 6.75 francs per kilogram, plus an excise tax of 10 francs, totaling 16.75 francs. Those containing 90 percent home-grown leaf would have a duty on only 10 percent of the leaf, or about 0.68 franc, plus a basic excise rate of 5 francs, totaling 5.68 francs. The total tax on the latter is only about one-third that on the former.

Under these conditions, it is no wonder that the use of home-grown leaf in cigarettes has increased rapidly. The extent of further increase at the expense of imported leaf will depend upon the continuation of the subsidy and upon improvement in the quality of home-grown leaf.

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RECENT DEVELOPMENTS
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ONTARIO REGULATES MARKETING OF FARM PRODUCTS

Under the Farm Products Control Act, adopted by the legislature of Ontario early in 1937, marketing-control schemes are now being applied to tomatoes, peaches, asparagus, pears, plums, cherries, and cheese, according to a report received in the Office of Foreign Agricultural Relations from Vice Consul Roger L. Heacock at Toronto.

The act authorized the Lieutenant Governor in Council to set up a Provincial Farm Products Control Board with powers to investigate and regulate all phases of marketing, transportation, packing, storage, and price of farm products grown in the Province. Such regulation, however, is done by subsidiary boards set up for the individual commodities. Marketing-control schemes may be proposed for any farm product by any group of persons engaged in the production or marketing of the same but cannot be placed in operation until approved by the Lieutenant Governor in Council upon the recommendation of the Provincial Farm Products Control Board.

Any or all of the powers possessed by the Ontario, or Provincial, Farm Products Control Board may be transferred to subsidiary boards established to regulate the marketing of individual products. Among those powers are the following: (1) To regulate the time and place at which, and to designate the agency through which, any regulated product shall be packed, stored, and marketed in Ontario; (2) to require the registration of all persons engaged in the production of, and the licensing of all persons engaged in the processing and marketing of, any regulated product; and (3) to adopt or determine fair or minimum prices for any grade of regulated product.

After a marketing scheme has been declared in force, the board concerned with its administration may levy tolls on the marketing of the product covered by the scheme in order to secure the funds needed to cover administration costs. Any person convicted of buying or selling below the minimum prices fixed for a regulated product must pay the difference between the price paid and the fixed minimum.

While the Ontario Farm Products Control Act may be applied to every phase of the marketing of any farm product raised in Ontario, it has been applied to date only to the seven commodities mentioned. Moreover, with the exception of cheese, the marketing-control schemes have been made applicable only to sales for canning or processing in Ontario. Sales of tomatoes, peaches, pears, plums, cherries, and asparagus for consumption in the fresh state, or for processing outside of Ontario are exempt from control.

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SPANISH GOVERNMENT CONTROLS WOOL PRICES AND SALES

An order issued by the Spanish Government on July 27, 1939, fixes the price at which the various types and grades of home-grown wool must be sold in Spain and prohibits the sale of any wool except upon official authorization, according to a report received in the Office of Foreign Agricultural Relations from Consul General Howard Bucknell, Jr., at Barcelona.

In addition to establishing a definite schedule of prices, the order provides that no authorization may be given for the exportation of any wool except inferior grades, the supply of which in normal times is not entirely consumed by the Spanish wool-textile industry. Such exports, however, may be made only upon the authorization of the Wool Bureau.

All livestock producers, wool dealers, and mills were required by the order to declare the stocks of wool in their hands on August 1, 1939, by class and quality. Wool proceeding from tanneries is also subject to the new regulations.

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